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LITERARY GAZETTE.

THE writer's powers and intelligence are too well known to need our evidence, and we shall therefore only say that this production commences with very neat and clearly engraved maps and explanatory text, worthy of Mr. Martin. The vast importance of a perfect knowledge of our colonies has now become so essential to our imperial weal, that the value of such a work must be greatly enhanced.

MORNING ADVERTISER.

OUR colonies have largely contributed to raise England to the proud position she holds among the nations of the earth. As a source of national prosperity, their importance and value can hardly be overrated.—There is a great deal of useful and important information comprised in the introduction.—We cannot but desire success to a work, the object of which is so creditable, and the effect of which, if it be carefully and tenaciously carried out, may be so useful.

EVENING SUN.

IN the valuable compilation made by Mr. Montgomery Martin may be obtained the fullest and most authentic information in regard to the history, the extent, the condition, and the resources of the British colonies. The introductory part now under consideration is embellished with an admirable and inestimable map of the world, on Mercator's system, indicating every portion of the globe belonging to Great Britain.

DISPATCH.

THOSE engaged in commerce, or who look to emigration as the "panacea" for the evils which abound among us, will appreciate an enlarged work upon the British Colonies, now emanating from the pen of an experienced man. The facilities granted him also, by having access to the "Blue Books" and official documents relating to the Colonies and Colonial affairs, in the library of Downing-street, must render this work one of the most complete and perfect of the kind we have had.

JOHN BULL.

THE work is one which will be of no ordinary value and interest; and as far as the specimen before us goes, it encourages us to hope that it will be worthy of its spirited author.

MARKE-LANE EXPRESS.

THIS is from the able pen of Mr. Martin, who enters upon the subject with statistical data and full and correct information, such as may be depended upon, coming, as it does, from one of the first statisticians of the age. The style in which the work is got up, must command a large sale. The price, too, is a mere bagatelle.

CRITIC.

THIS bids fair to be a most useful and comprehensive work, affording a vast fund of information on a subject of which we are at present rather destitute, on the best authorities. Maps of our colonial possessions are to be published in the parts. This contains "The World, on Mercator's Projection," showing the steam-routes to the colonies.

LONDON MERCANTILE JOURNAL.

WITH unfeigned satisfaction do we congratulate this country on Mr. Montgomery Martin having applied himself to the great task sketched out on the title-page of the work we are about to review. Had he declined it, we should hope in vain to see it undertaken by any other living man possessing the same rare qualifications for executing it successfully. His long and persevering researches into the subject, the passion (so to say) with which he has devoted himself to its study, his facility in the arrangement of facts, and that lucidity of style which arises from an author being perfectly master of the matter he has in hand, have long established his pretensions to become, if he would, emphatically the historian of our Colonial Empire; and we rejoice that not even honours and preferment have induced him to overlook or under value his proper destiny.

LLOYD'S NEWSPAPER.

WE are equally well pleased with the contents and the style in which it is got up. It will be one of the most valuable works of the day, as well as one of the most interesting. The style is good, and the writer and publishers are known—the first as a man of talent, the latter as men who keep their promise to the public.

BRISTOL TIMES.

THIS beautiful work, as our readers will perceive, is by the same enterprising parties who are doing such good service in furnishing the table of the school-room, and the library of the private house with the Illustrated Atlas. Like the latter, it is beautifully illustrated, and contains useful information in its letter-press.

TREWMAN'S EXETER FLYING POST.

A WORK which bids fair to be valuable as a reference, whilst it abounds with useful information. The Colonies of this Empire are important alike from their vastness, their population, and the trade carried on with them by the mother country. There can be no doubt of this publication becoming a standard work.

WEST OF ENGLAND CONSERVATIVE.

IT is obvious that a work which will give us such information, with respect to the Colonies, as is shadowed forth in the title, will be a work of great value and utility, and be likely to command very general attention. If there be one living writer better qualified than his contemporaries, by experience, by ability, by opportunity, by all his previous pursuits and studies, to undertake such a work, and to execute it well, that one is Mr. Montgomery Martin; and we may, upon the strength of his past achievements, look forward with confidence to his complete success.

PAISLEY AND RENFREWSHIRE REFORMER.

THIS is a new and important work, which has been added to their other spirited publications by the Messrs. Tallis, of London and New York. The merits of the writer, Mr. Montgomery Martin, are well known in the literary world; and from the labour and statistical researches that have evidently been gone into, in the production of the work, it will fill up a vacancy that was much felt in the general literature of the country, on account of the absence, hitherto, of any connected book on the history, resources, and condition of the British Colonies.

CHAPTER II.

AREA, PHYSICAL ASPECT, HIGHLANDS, LAKES, RIVERS, HARBOURS, GEOLOGY, MINERALOGY, SOIL, CLIMATE, DISEASES, AND MORTALITY.

NOVA SCOTIA has a smaller area than any of the British North American provinces, except Prince Edward's Island, but its importance as a naval station, its geographical and peninsular position, numerous harbours, extensive coal-fields, and lucrative fisheries, confer on the colony a value far superior to that to which it is entitled by its mere territorial extent, which is about 15,517 square miles.

Above 3,000 square miles are stated to be occupied by lakes and rivers of various shapes and sizes, so distributed that there is no point in the province 30 miles from navigable water. The number of small lakes is very great, especially on the southern side of the peninsula; nearly a hundred are to be found between Halifax and St. Margaret's Bay, scattered over a tract of country not exceeding 20 miles in length or breadth. The face of the country is pleasingly diversified with hill and dale, but the elevations are of inconsiderable height; the highland ranges seldom exceed 500 feet above the level of the sea, and run through the country generally from E. to W. Bouchette states, that the highest hills do not exceed 600 feet; but Major Robinson, who surveyed a large portion of the province in the year 1848, states, that the Cobequid Hills, which extend along the N. shore of the Bay of Mines, and very nearly across to the shore at the Straits of Northumberland, average in height from 800 to 1,000 feet, the lowest point being found at Folly Lake, 600 feet above the sea. In breadth the range preserves a nearly uniform width of about 10 miles. A belt of broken land, whose height averages about 500 feet, and whose breadth varies from 20 to 60 miles, runs along the shores washed by the Atlantic from Cape Canso to Cape Sable, occasionally forming bold cliffs on the coast, the most remarkable of which is Aspotogoon, between Mahone and Margaret's Bay. Another ridge extends on the W. coast, between Argyle and St. Mary's Bay; and, as before observed, a more lofty and extensive range skirts the Bay of Fundy, from Annapolis to Mines Basin.

VOL. I.

Lakes.—Of the numerous lakes the largest is Lake Rosignol, which is said to be 30 miles in length, and is situate partly in each of the three counties of Queen's, Shelburn, and Annapolis. It is the source of the Liverpool River—the Mersey; and in the same section of country there are several other lakes, approaching within a short distance of the Mersey, and communicating with the head of Allan's River, running into Annapolis Bay. Lake George, another lake of considerable size, and 70 or 80 small ones, are situate in the township of Yarmouth. A chain of lakes stretches from the head of the river Shubenacadie nearly to the harbour of Halifax, and, with the Shubenacadie Canal, completes the water communication quite across the province. Similar chains of lakes exist between Windsor and St. Margaret's Bay, between the head of the Avon and Chester, and between the river Gasperaux in King's County, and Gold River, in the county of Lunenburg.

Rivers.—The two principal rivers in the province are, the Shubenacadie before mentioned, and the Annapolis: the former takes its rise in Grand Lake, in the county of Halifax, and after a rapid and circuitous course, the length of which has not yet been accurately ascertained, it disembogues in Cobequid Bay. This fine stream is navigable for large vessels some distance into the interior, its banks are adorned with extensive groves of lofty timber, and contain inexhaustible stores of gypsum and lime; the scenery is picturesque;—varied by the abrupt frowning cliff with its woody summit, the verdant and cultivated vale, the wilderness with its deep solitudes, and the busy hum of civilized society. The rise and fall of the tide at the mouth of this river is about 50 feet.

The Annapolis takes its rise in the township of Cornwallis, in King's County, and after a long and serpentine route falls into Annapolis Bay; having previously received the waters of the Moose and Bear Rivers. It is navigable for large vessels for 20 miles above Annapolis, and 40 above Digby, and

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for large boats to a much greater distance. At Pictou the East, West, and Middle Rivers, all three navigable for large vessels, empty themselves into the harbour. The Avon receives the waters of the St. Croix, Kennetcook, and several others, and empties itself into the Bay of Mines; it is navigable for a considerable distance: at Windsor the rise and fall of the Avon is 20 feet at neap, and 30 at spring tides.

The country along the banks of the Avon is extremely beautiful; the luxuriance of the meadows; the frequent changes of scenery; the chain of high hills on the S. and W., clothed with variegated foliage, and the white sails of vessels passing rapidly through the serpentine windings of the Avon and St. Croix, are some of the leading features of the landscape. A bridge has been commenced to span the Avon at Windsor, where the extreme breadth is 1,050 feet. There is a small military post on elevated land at Windsor, called Fort Edward, in honour of his Royal Highness the late Duke of Kent. The fort is advantageously placed, and commands the entrance of both rivers.

The La Have, Mersey, and Medway; the Shelburne (which forms the fine harbour of that name); the Clyde, which is considered one of the most beautiful rivers in Nova Scotia; the Tuskat, with its numerous branches; the St. Mary, which crossing nearly the whole county of Sydney from N. to S., forms the harbour of St. Mary; the Maccan, Nappan, and Gaspereaux; the Musquedoboit, Sale, and Jordan; these are but a few selected from the multitude of rivers, many of which nearly equal them in magnitude, whose streams fertilize and adorn the province. It is a singular fact, that while the tide rises with extraordinary rapidity to the height of 75 feet in the Bay of Mines and Chignecto, it does not rise more than 6 feet in Pictou Harbour on the south shore. The Gut of Canso, which separates Nova Scotia from the island of Cape Breton, is 21 miles in length, and varies from 1 to $1\frac{1}{2}$ in breadth. The land rises boldly on either side, and the strait being the most convenient passage to and from the Gulf of St. Lawrence, is crowded during the summer and autumn with vessels of every description, which, together with the cottages of the little villages, situate on its banks, produce a pleasing effect.

Harbours.—In number, capacity, and security, the harbours of Nova Scotia are unsurpassed, if not unequalled, by those of

any other country of similar extent. Among the most remarkable on the northern shores may be mentioned, Pictou Harbour, which is as famous for its beauty as for its extent; Wallace Bay, navigable for vessels of the largest size, more than 6 miles; Pugwash Bay, in which ships of the first class can anchor within 20 yards of the shore; and St. George's Bay. On the S. and S. E. the noble harbour of Halifax stands pre-eminent. It is situated nearly midway between the eastern and western extremities of the peninsula, and its favourable position, easy entrance, accessibility at all seasons (its navigation being very rarely impeded by ice, as that of Quebec is annually), and capacity of affording safe anchorage for a thousand ships, have rendered it our chief naval station in North America. Shelburne Harbour is exceedingly capacious, and perfectly secure. Margaret's Bay is 12 miles in depth, and from 2 miles at its entrance to 6 in width; Mahone Bay, in Lunenburg County, is equally secure and extensive. Liverpool Harbour affords good anchorage; County Harbour is navigable for the largest ships for 10 miles from its entrance; Canso forms an excellent harbour, and Chedabucto Bay, 25 miles in length and 15 in breadth, is navigable throughout for the largest ships, and in its several smaller harbours affords safe anchorage. Between Halifax and Cape Canso are 12 ports, capable of receiving ships of the line, and there are 14 others of sufficient depth for merchantmen. The principal harbours on the northern shores in the Bay of Fundy are St. Mary's Bay, the beautiful Basin of Annapolis, which is described by Sir John Harvey as a noble estuary sheltered by mountain ranges, opening to the Bay of Fundy through a narrow gorge, navigable by large vessels, and accessible at all seasons of the year. Although this part of the country is comparatively but recently settled, the shores of this basin, for an extent of 30 miles, are highly cultivated, and present many traits of natural beauty and advanced civilization, of which the people are justly proud. Mines Basin, a continuation of the Bay of Fundy, whose tides of 60 feet in height rush through the strait between Cape Blomeden and Parrsborough, and then expand over a broad basin, which washes the shores of four of the most fertile of the inland counties, receives into its bosom 19 rivers, and having a powerful ebb and flow, affords singular facilities for navigation. Chignecto Channel

and Cumberland Basin likewise form harbours of less importance.

The governor of Nova Scotia, in his report to Earl Grey in 1848, rightly remarks, that these harbours were obviously never intended by Providence solely for the use of the inhabitants of Nova Scotia, who are already becoming to a large extent the carriers to Canada of tropical and foreign productions, and it is confidently anticipated that these fine havens will become entrepôts for the extensive adjacent inland regions.

Geology.—Nova Scotia is marked by four geological divisions, which reach nearly across from S.W. to N.E., and run in a longitudinal direction with the greatest diameter of the country. The S. side of Nova Scotia, bordering on the Atlantic, and forming a narrow strip from Cape Sable to Cape Canso, is composed principally of granite, gneiss, and mica slate. The second division, which is three to four times the breadth of the first, and extends from Cape St. Mary to Chedabucto Bay, is composed of slate, greywacke, and greywacke slate. The third is a trap district, and forms a narrow slip from Briar Island to Mines Basin, including the whole of the North Mountains, and the islands, &c., on the Nova Scotia shore of the Bay of Fundy. The fourth is a red sandstone district, and extends from the Gut of Canso, along the Northumberland Straits. The different formations in Nova Scotia correspond with those of the United States. In both countries they extend from N.E. to S.W., nearly parallel to the Atlantic coast, having the transition and secondary rocks placed to the northward and westward of the primary formations. The geological divisions of Nova Scotia, as above laid down by Dr. Gesner in his valuable work, are subject to various irregularities and deviations; but a section of the strata, extending from Halifax across the province to Cumberland Basin, would expose a greater variety of rocks and minerals placed in regular order than has yet been discovered in any country of similar magnitude. The fossil remains found in the mountain-limestone, transition-slate, &c., are extremely curious. The palm tree, the bamboo, and the cactus, have been dug from the rocks and coal-seams, indicating that Nova Scotia at one time enjoyed a tropical climate.

The order of succession of the different strata of rocks in Nova Scotia is thus given by G. R. Young:—

Nature of Rocks and Soils.	Where found
<i>Alluvial:</i> A vegetable soil. Gravel, sand, and clay, containing the bones of animals now existing.	Everywhere. Valley of Annapolis and King's.
<i>Diluvial:</i> Beds of gravel and rounded pebbles, containing bones of animals now existing (diluv. detritus).	The surface of the red sandstone district generally.
<i>Tertiary:</i> Thin beds of limestone and marl, containing ammonites and other shells. Beds of clay, limestone, and marl, containing the remains of land and marine plants and animals.	Gay's river, and some parts of Cumberland. Rawdon, Douglas, and some parts of Colchester.
<i>Oolitic:</i> Brown sand. Slaty limestone, with shells. Marly clay. Limestone with shells. Hard clay. Compact limestone and Oolite.	Shubenacadie river. Windor. Econom. Onslow, Pictou, Cumberland, Parr-borough. Londonderry, Windsor Nopeau.
<i>Trap:</i> Trap rocks. Greenstone, amygdaloid, and tuffstone, containing gems and neolites.	The North Mountains, capes, and islands near Parrsborough.
<i>Sandstone, new red:</i> Sandstone of a bright red colour, containing beds of gypsum, and sometimes rock salt.	Windsor, Rawdon, Douglas, Pictou, Cumberland.
<i>Coal group.—Secondary rocks:</i> Limestone, containing magnesia. Coal measures, consisting of sandstone, coal, shale, iron-stones and limestone, in alternations often repeated, containing the remains of several classes of tropical plants, marine, and fluviatile shells. Millstone grit.	Shubenacadie, Cumberland. Pomket, Pictou, Onslow Cumberland. Pictou, Cumberland.
<i>O. red old M. sandst. limest.:</i> Beds of limestone, slate, clay, and sandstone. Dark red sandstone, with beds of pebbles.	Onslow, Pictou, Horton. Horton, Falmouth, Pictou.
<i>Primary transition:</i> Slate, greywacke slate, and quartz rock, sometimes alternating with transition limestone, containing marine organic remains. Mica slate. Gneiss. Granite of several varieties.	Chedabucto Bay, Halifax, Windsor Road, Lunenburg, Yarmouth, forming a belt running lengthwise the province, and occupying a large tract of country. Cape Canso, Halifax, Margaret's Bay, Lunenburg, Shelburne, forming the south coast of the province.

Grey granite prevails along the shore; trap-rocks, sometimes interstratified with clay-slate, protrude in various places in immense parallel ridges above the surface,

and frequently in piles of loose masses heaped confusedly together, traversed frequently by veins of quartz. Near Liverpool, says Dr. Gesner, the whole face of the country is covered with white granite masses; some of large and regular dimensions, resembling, at a distance, huts and other rude buildings; in some places the resemblance is so perfect, that they might be mistaken for a deserted village. Within four miles of Halifax is a granite rock, seventy-five feet in circumference, weighing upwards of one hundred and fifty tons, poised so evenly on a flinty base of twelve inches, that the strength of one hand suffices to put it in motion. Several extensive and beautiful grottos are to be found in different parts of the coast; one at Pictou is 100 feet long and 6 feet wide, with beautiful stalactites suspended from the roof; and a cavern at the Bay of Fundy, with a narrow entrance towards the sea, contains magnificent halls, apparently adorned with brilliant gems. In the old red sandstone near the town of Lunenburg, cavities, called "ovens," have been made by the sea; into these the waves rush with great violence, and the air being confined bursts out, carrying the spray before it with a noise and appearance like the spouting of an enormous whale. These "ovens" are supposed by some Americans to be the nests of the "sea-serpents" seen near Boston. Clay-slate is found in the eastern section of the colony; it is generally of a very fine quality, and used as building stone at Halifax. Greywacke, and greywacke-slate, in which are found beds of limestone and numerous species of specular iron ore, extend along both shores of Chedabucto Bay. The grindstones so much esteemed in the United States, and known as "Nova Scotia blue grits," are obtained from a stratum of sandstone, which is found between the coal and limestone; they afford a valuable branch of trade to the colony. Connected with carboniferous limestone are the valuable coal-fields of Nova Scotia, which, together with those of Cape Breton (now working), afford sufficient of this important mineral to supply the whole continent of America.

Major Robinson, of the Royal Engineers, in his able report, dated Halifax, 31st August, 1848, on the proposed line of railway from Halifax, through New Brunswick to Quebec, says that indications of coal are met with in abundance from the banks of Cay's River (twenty miles from Halifax) up to

the Restigouche River, and along the shores of the Bay of Chaleurs. The greatest and most valuable coal-field is that on the S. side of the harbour of Pictou, in Nova Scotia. The coal-field is stated to be about 100 square miles in extent—the seam varying in thickness from one to *thirty-six* feet. The coal is bituminous, and of good quality. Mines of it are extensively worked, and large exports from them are made to the United States. The Cumberland coal district is inferior in importance only to that of Pictou: it is supposed to extend from the Macon River, W. of Anheist, over to Tatmagouche, in the Straits of Northumberland. Some mines of it have been recently opened, and promise to be very productive.

Varieties of iron, copper, and lead ores have been met with; marble, alabaster, and porphyry abound, and the vast internal wealth of this portion of the British dominions will probably render it at no distant day the great mining district of the "New World."

Soil.—The arable surface is of various quality; there are extensive alluvial tracts producing as rich crops as any land in England; some of the uplands are sandy and poor, and on the S. coast it is so rocky as to be extremely difficult of cultivation, but when the stones are removed excellent crops are obtained. The heads of rivers and the bends of bays on the N. coast afford many fertile tracts. The granite disappears altogether, except at one or two places, at an average distance of 20 miles from the sea; slate forming the basis of the upland in the immediate rear, particularly in the centre of the province. Beyond this is the region of fertility—the soil being excellent, and stone (except quarries of grindstone and freestone in the counties of Pictou and Cumberland), rarely to be seen. There are three descriptions of land known in the husbandry of the province—upland, intervale, and marsh.

The upland, in the counties of Inverness, Sydney, Pictou, Colchester, Cumberland, Hants, King's, Annapolis, and Digby, is generally fertile and free from stones. Sir John Harvey says:—

"Along the banks of many rivers, draining these extensive tracts, are found the intervales, being narrow strips of light alluvial soil, above the head of the tide, and skirting the streams, until near their headwaters the mountains close in and make the descent too rapid to admit of deposits being formed. These intervales are not more fertile than good upland, but are generally preferred: some of them, overflowed by the freshets, which bring down rich particles of soil

from higher elevations, will produce hay without manure; others, secure from flowage, and requiring no expense to dyke them from the sea, make excellent tillage land, easily worked, from their presenting level surfaces and a light yet fertile soil. Such of these intervalles as are cultivated bear grain and green crops well, perhaps with less manure than upland usually requires, but they do not retain it so tenaciously, and, besides, are earlier struck with frost.

"The dyked marshes of Nova Scotia, formed along the banks of all the rivers flowing into the Bay of Fundy and Basin of Mines, are the real wealth of the province, and redeem her from the lower level, which, but for them, she must have occupied as an agricultural country. I have said that the tides of the Bay of Fundy rise and fall about 60 feet. The tide-wave, pressed on by the mass of waters in the rear, rushes with resistless velocity up the beds of the streams, meeting and controlling the waters descending towards the basin, and overflowing with a rich deposit the flat lands, which extend on either side. The receding tide leaves these covered with rich mud, successive layers of which, deposited in the lapse of years, and gradually overgrown with wild grasses (which, as they rise, intercept and bind together fresh particles of soil), form the marsh lands of Nova Scotia, which have been cropped without manure for 150 years. The cost of protecting these lands is not very heavy compared with their intrinsic value, which is hardly yet sufficiently estimated by those who own them; but their comparative worth may be judged by the fact, that, while the best upland in Nova Scotia, in favourable situations, except on the peninsula of Halifax, rarely sells higher than £10 an acre, from £20 to £50 is perhaps the average price of dyke, while woodland or pasturage, on the hill sides, but a few miles in the rear, will scarcely command £1."

There is an extensive disintegration of rocks in Nova Scotia, and the decomposition of granite, which is composed of quartz, feldspar, and mica, produces a soil, which, although scanty, is good and productive. Granite, especially the soft or porcelain description, when presenting a naked surface to the atmosphere, speedily decays; Sir Humphry Davy has shewn that the *feldspar* which constitutes one of its ingredients, yields lime and potash; the *mica*, lime and magnesia; these imbibe from the atmosphere carbonic acid; the oxide of iron, which constitutes one of the ingredients of granite, tends to unite with more oxygen, and the moisture supplied by rain serves to break the cohesion of the structure and prepare for rapid disunion. *Feldspar*, which is the cement of granite, first yields and forms clay; *mica* next gives way and forms sand, and *quartz*, which takes the longest time in decomposing and is a pure siliceous earth, forms gravel. The old red sandstone in different parts of Nova Scotia, has contributed much to the production of soil by its easy decomposition; but it is a poor and hungry soil, and has but a scanty covering

of vegetation, unless improved by artificial means. In Nova Scotia the *upland* consists partly of siliceous or sandy soils, called "barrens;" partly of some pretty large tracts of clay, diversified both as to texture and colour, but chiefly of loam—the best and most valuable of all uplands, because compounded of original earths, by whose union the purposes of vegetation are most effectually promoted. These loams are distributed in rich profusion all over the province, and yield abundantly whatever kind of corn is sown upon them.

Of clay upland there is a great variety, and it is met with on the different rivers that empty themselves into Pictou harbour, in the neighbourhood of the Shubenacadie, and largely between Liverpool and Shelburne. The term "*intervale*" in Nova Scotia is applied to fertile levels along the banks of rivers, formed by the gradual deposition of their waters during successive ages. The *intervales* are composed therefore of successive coats of fine particles of clay, sand, and lime, which the water had held in suspension, and which had been washed from the higher lands by rains or melting snows. They are of alluvial origin, and all the primitive earths enter into their composition; one turbid torrent brings clay, another sand, a third passing a limestone district contributes a valuable calcareous earth. Where any of these ingredients predominate, the *intervale* is not so fertile; it is their equable mixture which gives the soil its great fertility. In the N. W. districts the best land is found: towards the Bay of Fundy the soil is rich and free from stones. A great extent of dyke, or marsh land, has been drained, and some of it has yielded for more than half a century an annual produce of three tons of hay per acre. There are 70,000 acres in one body of this dyked land at the head of the Bay of Fundy.

The agricultural operations of the province, thanks to the excellent "Letters of Agricola" (J. Young, Esq.), are conducted with much skill and success.

Climate and Diseases.—The climate of Nova Scotia, like other parts of the North American continent, is remarkable for great and sudden alternations of temperature; the thermometer has been known to exhibit a difference of 52° in 24 hours. The atmosphere is exceedingly moist; the showers heavier and more frequent than in Britain; fogs are common along the sea coast, particularly in May and June, but they seldom

extend any distance into the interior. Although the winter is much more severe than that of Great Britain, yet the cold is not by several degrees so intense, nor the heat of summer so great as in that part of the American continent further to the westward. The thermometer is seldom lower than 6° or 8° below zero in winter, or above 88° in summer.

As the country is cleared, the climate becomes milder; the following Meteorological Register is for Halifax:—

	Ther. Fahr.		Weather.	Wind.
	Max.	Min.		
January . . .	42	20	Clear, rain, snow	N. S.W.
February . . .	40	18	10 Ditto, ditto, cloudy	N.W. and variable
March . . .	52	25	6 Ditto, cloudy, rain	N.W. and S.W.
April . . .	54	30	8 Ditto, rain and cloudy	Westerly.
May . . .	60	40	20 Ditto, little rain	N. and ditto.
June . . .	68	50	30 Ditto	W. and Northerly.
July . . .	80	63	40 Ditto, ditto and fog	W.N. and S.
August . . .	80	70	55 Ditto, ditto, cloudy and hazy	W. and Southerly.
September . .	79	51	48 Ditto, ditto	N.W. and S.
October . . .	68	51	30 Ditto	S.W.N. and N.W.
November . .	49	38	18 Ditto, rain and fog	W. and S.W.
December . .	46	25	7 Ditto, and snow	N.W. and N.E.

From December to the end of March the ground is generally covered with snow. There is scarcely any spring, but the autumn is pleasant, and of long duration. The prevailing winds are from the E. in spring, and from the S. or S.W. in summer and autumn, and from the N. or N.W. in winter, at which period a change to any other quarter is generally followed by a rapid rise in the thermometer, accompanied by much rain or snow. The statistical reports on the sickness, mortality, and invaliding among the troops of the British army, prepared from the records of the Army Medical Department and War Office returns, states, that although nearly one-third of the surface of the peninsula is under water, yet the inhabitants "enjoy a remarkable degree of health, and an almost total exemption from those intermittent and remittent fevers which affect the constitution in Canada." The air, indeed, is highly salubrious; 80 years of life being frequently attained in the full use of mental and bodily faculties. The climate of Cape Breton is much the same as that of Nova Scotia, but even more healthy; no epidemic disease, except small-pox, has been known for many years in the island, and both among the inhabitants and the troops sickness and mortality are exceedingly rare. In the adjacent island of

Prince Edward the winter is more severe than at Cape Breton or Nova Scotia; the thermometer frequently falls to 20° or 25° below zero, and the rivers and bays remain frozen to the end of April. At Fredericton, in New Brunswick, the climate is not liable during winter to such sudden vicissitudes as that of Nova Scotia; the frost is steadier, and the winter more severe and of longer duration; the summer heat is more intense; the thermometer ranges from 96° to 42° below zero. Fogs during May and June are common along the sea coast, but they do not appear to have much effect on the salubrity of the air. In illustration of the health of these settlements the following return is given of the sickness and mortality among the troops in Nova Scotia and New Brunswick, for a period of 20 years, according to the medical returns of strength:—

Years.	Strength.	Admitted into Hospital.	Died.	Ratio per 1000.	
				Adm.	Died.
1817	3,245	2,499	65	770	20
1818	2,411	1,343	17	557	7
1819	2,070	1,595	36	771	17
1820	1,995	1,481	24	743	12
1821	2,034	1,828	16	899	8
1822	2,083	1,736	29	833	14
1823	1,987	1,444	24	727	12
1824	2,065	1,655	22	825	11
1825	2,196	2,418	29	1,101	13
1826	2,183	1,796	32	823	15
1827	2,212	1,724	34	779	15
1828	2,138	1,588	28	743	13
1829	2,286	2,062	28	902	12
1830	2,417	2,051	33	849	14
1831	2,463	2,182	53	886	22
1832	2,290	1,781	29	778	13
1833	1,892	1,376	32	727	17
1834	1,967	2,196	79	1,116	40
1835	2,146	1,681	18	783	8
1836	2,102	1,738	21	827	10
Total	44,120	36,174	649	—	—
Average	2,206	1,809	32	820	14.7

This table differs from the War Office returns, which give the total deaths, arising from all causes, at 829; making a difference in 20 years of 180. Of this number 17 committed suicide, 35 were drowned, 8 died suddenly, 7 by accidents, 8 by excessive drinking, 1 frozen to death, 1 shot attempting to desert; some died at an outpost under charge of private medical practitioners; and some belonged to the Artillery, who make no returns to the War Office. The medical officers' statements above show an average annual mortality of 1.47 per 1,000;

the War Office returns 18 per 1,000 annually, which is more than that of the dragoons and dragoon-guards in the United Kingdom, whose ratio of mortality is about 11½ per 1,000 annually, and the average of sickness 109 per 1,000 more than that of the troops in Nova Scotia and New Brunswick. In Canada the medical officers' returns for 20 years show the total strength referred to in returns 61,066; the admissions into hospital of that strength, 66,957; the deaths, 982; the average annual admissions into hospital were therefore 3,318; the average annual deaths, 49; the deaths per 1,000, 16·1. The cases of sickness in Canada are 168 per 1,000 more than the dragoon-guards and dragoons serving at home; and the deaths of 16·1 per 1,000 is a medium between the ratio in infantry depôts and cavalry corps serving at home. The mortality shewn in the War Office returns for the same period is 1,286, making a difference of 304; of this number 122 were drowned (chiefly in attempting to desert into the United States), 13 committed suicide, 10 died of excessive drinking, 10 of apoplexy, 3 found dead, 2 killed by lightning, 2 shot dead, 1 murdered, 3 executed, 4 died suddenly,—these and other casualties make the mortality in Canada 20 per 1,000 annually. The moiety of deaths in Canada were from fever; in Nova Scotia and New Brunswick from diseases of the lungs. The diseases and deaths among the troops in Nova Scotia and New Brunswick, are thus shown:—

DISEASES. (The admissions & deaths in the United Kingdom refer to the dragoons and dragoon-guards.)	ADMISSIONS.		DEATHS.	
	Ann. ratio per 1000 of Mean Strength.		Ann. ratio per 1000 of Mean Strength.	
	Nova Scotia and New Brunswick.	United Kingdom, (Dragoons.)	Nova Scotia and New Brunswick.	United Kingdom.
Fevers	69	75	16	14
Eruptive Fevers	2	3	—	1
Diseases of the Lungs . .	125	148	71	77
" Liver	9	8	2	4
" Stomach and Bowels .	94	94	15	8
Epidemic Cholera	5	4	14	12
Diseases of the Brain . .	11	6	13	7
Dropsies	2	1	5	3
Rheumatic Affections . .	30	50	—	—
Veneral	83	181	—	—
Abscesses and Ulcers . . .	105	133	—	—
Wounds and Injuries . . .	148	126	11	14
Punished	24	8	—	—
Diseases of the Feet . . .	51	19	—	—
" Skin	23	29	—	—
All other Diseases	72	44	—	—
Total	820	929	147	14

Thus, although the climates and localities are, in many respects, dissimilar, the diseases and mortality are alike. It should be remarked, however, that the dragoons and dragoon-guards are picked men, and not subject to the exposure and hardships devolving on troops of the line in the Colonies.

Every physiological, terrestrial, and meteorological fact, in any manner connected with the mysterious disease termed cholera, is so valuable, in order that, by better understanding it, every means may be taken which can be reasonably hoped to conduce, under Providence, to its prevention, mitigation, and cure, that I am induced, to give the following remarkable statement, furnished to the War Office, relative to the appearance and progress of this extraordinary malady among the troops in British America; viz., at Nova Scotia, New Brunswick, and in Eastern and Western Canada.

"The troops in this command (Nova Scotia and New Brunswick) escaped this disease in 1832, when it raged with great severity in Canada, but in July, 1834, it broke out among those at Halifax under the following circumstances. On the 20th of that month a vessel from Quebec, where the cholera was then prevalent, entered the harbour of Halifax. During the voyage the crew had suffered severely from bowel complaints, and one of them was admitted into the poor-house labouring under symptoms of cholera, of which he died. About a week afterwards, another fatal case occurred in a person occupying the same ward, and by the 7th August the disease began to be very general among the inmates of the establishment. The first cases were observed in the town about the 10th of August, from which period till the 24th the epidemic made rapid progress, and continued with various degrees of intensity till the end of September. The extent of its ravages cannot be accurately ascertained, but it is supposed that throughout the town and suburbs about 600 died. The number admitted into the civil hospitals was 1,020, and the deaths 382. The infirm, the drunken, and the dissipated were its principal victims, though to this there were many exceptions.

"Among the military, two cases of simple cholera had been noticed in the 96th regiment, on the 24th and 31st July, but it was not till the 8th of August that the first fatal case occurred. After that period it spread throughout the garrison; the Rifle Brigade suffered most, indeed to such extent, that 18 deaths took place between the 21st and 25th of August. The corps was, in consequence, sent to Sackville, about 8 miles from Halifax, after which only four new cases occurred. The success of this experiment led to the same measure being adopted with the 96th and 83rd regiments, who were removed to an encampment in the vicinity of the town, with the like good effect: the disease ceased both among the civilians and military about the end of September, though a few isolated cases continued to present themselves for some weeks after.

"During the whole of this period bowel complaints of various kinds were exceedingly common, even

among those who escaped the graver forms of the disease.

"Though the circumstances under which the disease first appeared were such as to favour the idea of contagion, yet nothing occurred in the course of its progress to strengthen that supposition; and neither the medical officers, nor those in immediate attendance on the sick, suffered in a greater proportion than persons not so exposed.

"Of 293 women attached to the different corps, 37 were attacked and 16 died, being almost exactly the same proportion as among the soldiers. Children were remarkably exempt, for of 560 in the garrison only 16 were attacked, and 6 died. The officers also suffered but little; out of a strength of 60 only 4 were attacked, all of whom recovered.

"The admissions into hospital were 210, the deaths 59. Proportions of deaths to admissions 1 in 3 nearly.

"The following Table, compiled from the Age and Service Returns furnished annually to the War Office, shows that the mortality on this occasion fell very heavily on soldiers at an advanced period of life:—

Age.	Strength.	Total Deaths by Epidemic Cholera.	Ratio of Deaths per 1000 at each Age by Epidemic Cholera.
Under 18 . . .	18	—	—
18 to 25 . . .	502	1	2
25 " 33 . . .	829	30	36.2
33 " 40 . . .	158	14	88.6
40 " 50 . . .	37	4	108
Total . . .	1,544	49	31.7

"This Table only includes a part of the deaths, as those which occurred among the Ordnance cannot be traced.

"We find it stated, that prior to the appearance of cholera there was more easterly wind than usual, and that the progress of the disease was greater during and after a long continuance of rain than in dry weather; but the meteorological observations are not sufficiently detailed to warrant the accuracy of that assertion. The epidemic does not seem to have extended beyond the limits of Halifax, at least the troops were exempt, and we can find no record of it having prevailed in any other quarter among the civil population.

"The disease prevailed in Canada in 1832 and 1834; in the former of these years cases of it were first noticed at Quebec, on the 8th of June, among a party of emigrants who landed there on their way to Montreal, in consequence of the steam-boat in which they had embarked being over-crowded. On the following day a person belonging to the same party, but who had proceeded by the vessel to Montreal, was attacked shortly after his arrival there, and within a few days the disease became general in both towns, breaking out almost simultaneously at different and opposite parts with extreme virulence, even when no communication with strangers or emigrants could be traced; it chiefly afflicted residents in crowded or ill-ventilated buildings, or low and marshy situations, where whole families were in several instances cut off by it.

"By the 17th or 18th of June the disease had attained its greatest prevalence and severity, and continued with little abatement during the rest of that

month; but towards the beginning of July the cases became of a milder nature; it afterwards raged, however, at intervals, with increased virulence for a few days, and isolated cases continued to make their appearance till the month of October. The disease then ceased, after having destroyed in Quebec upwards of 2,200 out of a population of 30,000, including passing emigrants, and 3,000 in Montreal, out of a population of nearly the same extent; as the greater proportion of these perished within a fortnight after the disease appeared, the mortality during that period must have been most appalling. In Quebec it broke out among the troops a few days later than among the inhabitants, but did not affect them to quite so great an extent; out of about 1,100 quartered at Quebec 25 died, besides two or three at some of the small outposts. The 32nd Foot, which was cut off from communication with the inhabitants by being quartered in the citadel, escaped for 66 days, but then suffered as much as the rest of the troops; for of 17 attacked 11 died, and the disease was so rapid in its progress, that the average duration of the fatal cases did not exceed 16½ hours.

"In Montreal, cholera appeared among the troops two days after it broke out in the town, and raged with still greater severity than at Quebec, for out of a force which did not exceed 550 men 39 were cut off in a few days.

"With the view of arresting the alarming progress of this pestilence, the military at Montreal were, about the 20th of June, removed to an encampment on the island of St. Helen's, and all communication with the town cut off; they remained till the end of October, during which period only one case occurred among them. A detachment of 70 men, however, who had been removed to the barrack of La Prairie, on the opposite side of the river, suffered extremely; for, of 10 soldiers attacked, 8 died; the remainder were then transferred to St. Helen's, after which no fatal case, and only two or three slight attacks, occurred among them.

"On this occasion the troops at Isle aux Noix, Sorel, and the other stations in Lower Canada, escaped the disease, but within eight days after its appearance at Montreal it broke out at Kingston in the upper province, and gradually extended to Toronto, and Fort George, where it proved fatal in nearly the same proportions as in the lower province, particularly at Toronto. Though the inhabitants at By Town suffered very much, the cases among the military were comparatively few and slight, and at Amherstberg and Penetanguishene they entirely escaped. The loss of the troops at those stations in the upper province where it prevailed was,—

	Strength.	Died.
At Kingston and Fort Henry . . .	577	8
Toronto . . .	317	10
Fort George . . .	59	2

"As it was later in its appearance, so it was, in a corresponding degree, of longer continuance in the upper province, where cases occurred till the commencement of winter. Owing to the scattered state of the population, the precise extent of the mortality cannot be exactly ascertained; but at Toronto, about an eighth part was attacked, and of these, one-half died. At By Town, 49 deaths took place out of a population of 1,000, and in some of the smaller villages the mortality was even greater.

"During 1833 no cases of cholera were observed; in May, 1834, a few were said to have occurred at Quebec immediately after the opening of the ports,

but it was not till the 7th of July that the presence of the disease in that town was so far ascertained as to be made the subject of official announcement. On the 11th it was reported also at Montreal, but in both of these towns, and indeed generally throughout the province, its progress was by no means so rapid or so alarming as on the previous occasion. By the middle of August it was on the decline throughout Lower Canada, but did not entirely disappear till November. The mortality was not so great as in 1832, for only 930 deaths are recorded to have taken place from it in Quebec, and 882 in Montreal.

"Though one case is said to have occurred in the end of June, it was not till the 14th of July that the epidemic began to prevail among the military in Quebec. Between that date and the 4th of August, several were attacked in the town barrack; but, as on the former occasion, those in the citadel escaped till the disease was on the decline among the inhabitants; the first case among them occurred on the 18th of August, and for a week thereafter they suffered very much, though not to such an extent as the others. In all, 16 deaths took place among the troops in the town and citadel of Quebec, besides 3 at the quarantine station of Gros Isle, where there was a small detachment.

"At Montreal the disease appeared among the military the day after it was observed among the inhabitants, and by the 22nd of July several cases and four deaths had taken place; the troops were then removed to the Island of St. Helen's, as on the former occasion, and with like good effect, for only two cases occurred afterwards, neither of which proved fatal, though of nine cases left sick in the hospital at Montreal three died. Of the troops at Isle au Noix, and the other small military posts in the Lower Province, none were attacked, but in some of the adjacent villages it proved very fatal; at Three Rivers, for instance, 63 deaths took place out of a population of 300.

"Following up the course of the St. Lawrence the cholera reached Kingston on the 26th July, and prevailed among the inhabitants quite as much as in 1832. The Artillery, though in an elevated and what was supposed a healthy quarter, lost five men in the course of a few days. The troops of the line, who, being in a low swampy situation, were more likely to suffer, lost only one man, but their barracks admitted of a more complete separation from the inhabitants,

• "Penetanguishene, to the N. of Georgian Bay, a branch of Lake Huron, is distant about 80 miles N. W. from Toronto, where a subaltern, with 30 or 40 men, is generally quartered. The barrack, a substantial stone building affording excellent accommodation, stands at the base of a long sandy ridge of ground from 200 to 300 feet in height, forming, by its projection into the bay, one extremity of an extensive harbour. There is also a small wooden hospital on the rising ground, about 400 yards in rear of the barrack. At the head of this bay, as well as for several miles to the S. E., the ground is low and swampy, but as the post is well sheltered in that direction by the rise of the hill on which it is built, and the wind generally blows down the lake, the exhalations are likely to be carried beyond the garrison.

"The general character of the country in this district is undulating and hilly, but there are no mountains of any magnitude in the vicinity, though several are to be seen in the distance: the soil is still covered

to which this exemption was attributed, and on the Artillery being removed to an encampment at Fort Henry the disease disappeared. From Kingston it extended to Toronto on the 30th of June, and committed great havoc among the inhabitants, particularly the lower orders, but the troops escaped with three cases of simple cholera, none of which proved fatal.

"The disease prevailed to a considerable extent both at Fort George and Amherstberg among the inhabitants, but did not extend to the troops, who only suffered from a general tendency to bowel complaints during the time it prevailed in the vicinity. At the remote station of Penetanguishene no cases occurred."

"The proportion of deaths to the number attacked was very nearly the same in both years. In all situations and under all modes of treatment, about 1 in 2 died of the cases in the civil, and 1 in 3 of those in the military hospitals; but from the strict surveillance exercised over the troops, nearly half of the cases among them were noticed in the premonitory stage, and consequently could be treated with a greater prospect of success than those in the civil hospitals, where the great majority of patients were far advanced in the disease before they applied for medical aid. The admissions into hospital were 356; deaths, 127; proportion of deaths to admissions 1 in 3.

"One of the most extraordinary features of this epidemic is, that the proportion of deaths to recoveries has been very nearly alike in all the Military Commands of which the medical records have been investigated, for instance:—

Military Commands.	Attacks.	Deaths.	Prop. of Deaths to Attacks.
Among Cavalry in the United Kingdom, 1832, 1833, and 1834.	171	54	10 in 32
" Troops in Gibraltar, 1834.	459	131	10 " 35
" Nova Scotia, &c. 1834.	210	59	10 " 35
" Canada, 1832.	259	94	10 " 28
" Canada, 1834.	97	33	10 " 29
" Black Troops at Honduras, 1836	62	20	10 " 31

"Thus, under all the modes of treatment which may have been adopted on these different occasions,

with primeval forests, except for a short distance around the post.

"Though this station is little more than one degree N. of Toronto, there is a vast difference in the climate; the winters are as severe and as long as those in Lower Canada; snow falls about the middle of November, and continues till the beginning of May, and, in some instances, the whole lake is frozen till the end of that month. The summers are however much cooler, and more agreeable than in either of the provinces. Notwithstanding the severity of this climate, the troops have been healthy to an unprecedented degree; no death has taken place, except from accidents, since 1828, when the station was first occupied. Fevers are almost entirely unknown; and in 1836, out of an average force of 42 men, only 4 cases of disease occurred which could fairly be attributed to climate; yet so sudden are the changes of temperature, that the thermometer has been known to fall from 40 deg. above to 15 deg. below zero, between midnight and sunrise."

the proportion of deaths to recoveries has not varied above one-fourth, showing that the remedial measures hitherto employed can have had little if any effect in counteracting the fatal character of the disease.

"In both these years, when this epidemic prevailed, the native Indians suffered from it to the same extent as the white population. At three settlements from which Returns were received, about a twelfth part of the population died in 1832, and about half that proportion when it again prevailed in 1834. Although their principal remedy consisted in swallowing large quantities of charcoal mixed with lard, almost exactly the same proportion recovered as among the white inhabitants of the towns, who possessed every advantage which the aid of medical science could suggest.

"In tracing the course of various epidemics of yellow fever among our troops in other colonies, we have frequently noticed that all ranks were affected in nearly an equal degree; the reverse was the case, however, with cholera, particularly in Canada, for not a single officer died, and only four were attacked during the first, and three during the second epidemic. The same peculiarity was observed during

the prevalence of this disease in Nova Scotia, in 1834; and in Gibraltar there were but two admissions and one death among the officers, though there were 439 admissions and 131 deaths among the troops. This leads to the inference that though little can be done to ameliorate the character of the disease when allowed to arrive at an advanced stage, yet that a generous diet, regular habits, and the degree of attention which persons in the higher ranks of life are likely to pay to its premonitory stages, have a powerful effect in diminishing their liability to its influence.

"The soldiers' wives suffered to almost precisely the same extent as the troops, but there was a marked exemption of their children from the severer forms of the disease, only seven cases and four deaths having occurred among them on each occasion, though their numbers were between 700 and 800; a very large proportion, however, suffered from diarrhoea during the prevalence of the epidemic, and many were cut off by it.

"The following Table, compiled from the Age and Service Returns, furnished annually to the War Office, shows the influence of age on mortality by this disease among the troops:—

Age	Strength.		Deaths by Epidemic Cholera.		Total Strength for both years.	Total Deaths by Epidemic Cholera, in both years.	Ratio of Deaths at each Age by Epidemic Cholera.
	1832.	1834.	1832.	1834.			
Under 18 . . .	18	12	—	—	30	—	—
18 to 25 . . .	1,172	695	23	6	1,867	29	15.5
25 to 33 . . .	1,070	1,145	39	12	2,215	51	23.
33 to 40 . . .	282	297	17	4	579	21	36.3
40 to 50 . . .	38	47	3	3	85	6	70.6
Total . . .	2,580	2,196	82	25	4,776	107	22.4

"As the requisite Returns are not furnished by the Artillery, this Table refers to the deaths which took place among the troops of the line only; but combined with similar results obtained in regard to those in Nova Scotia, it is sufficient to establish that the fatal tendency of cholera increased rapidly with the advance of age.

"In tracing the rise and progress of this disease, nothing is more remarkable than the regularity with which, on both occasions, it advanced along the principal channels by which the tide of emigration and of commerce flowed through the country; take, for instance, its progress along the line of the St. Lawrence and the lakes.

Progress of the Disease.	Date of Appearance of the Disease	
	1832.	1834.
Quebec . . .	8th June	7th July.
3 Rivers, between Montreal and Quebec . . .	Escaped	9th "
Montreal, 180 miles above Quebec . . .	10th June	11th "
Kingston, 190 miles beyond Montreal . . .	16th "	26th "
Toronto, 181 miles beyond Kingston . . .	28th "	30th "
Fort George, 10 miles from Toronto . . .	14th July	13th Aug.
Detroit and Amherstburg, at the extremity of Lake Erie . . .	6th "	End of Aug.

"Here, with the single exception of Fort George, at which it appeared a few days later in 1832 than might have been expected from its geographical posi-

tion, this singular disease may be said to have travelled with post-like regularity.

"Along the banks of the Ottawa, another of the principal channels of emigration into Canada, it pursued the same steady course, as well as up the Richelieu, and along Lake Champlain through the United States to New York, a route which is also frequently taken by emigrants on their arrival in Quebec. These circumstances, combined with the fact of several persons having died from the disease on their passage from Ireland, in each of the years when it appeared, led to the belief of its having been imported, and subsequently communicated by contagion; various precautionary measures were in consequence adopted to prevent its propagation, and strict quarantine regulations were enforced, both as regarded the troops and inhabitants; but though in some instances these were apparently effectual, in others they proved of little avail, and the contagious nature of the disease was subsequently rendered extremely questionable from the circumstance, that neither the physicians nor those in constant attendance on the sick, exhibited any peculiar liability to it.

"Of course it is impossible, in a limited Report of this nature, to enter fully on all the facts and arguments bearing on the important and much-disputed topic of contagion; we can only say that all which has been adduced on either side seems to fall far short of absolute proof, and even those who have had the best opportunities of forming accurate opinions, by watching the progress of this disease, are forced to admit that its origin is still involved in

mystery, or at least, that the contrariety of results can only be reconciled by supposing that under some circumstances it may be contagious, while in others it may be the reverse.

"Prior to its appearance in 1832, the winter had been extremely severe, the spring cold and backward, and the average temperature of summer considerably below its usual standard. Easterly winds had also prevailed continuously for 27 days before the disease broke out; but this is by no means uncommon in spring, though in that year they were more frequent than usual, as will be seen by the following statement:—

Years.	Days of Easterly Winds in April, May, and June.	Days of Easterly Winds throughout the year.
1832	49	121
1833	38	111
1834	36	120

"Except in regard to the slight difference in the prevalence of easterly winds, the season of 1833 was almost exactly the same as that of 1832, and yet there was no cholera; whereas that of 1834 was the

very reverse of either. With the exception of one month the winter was open, the spring mild, the easterly winds preceding the breaking out of the cholera more rare, and the heat of summer greater than for many years previous.

"Most accurate and extensive meteorological observations were made daily during the continuance of the disease, but neither variations of temperature, fluctuations of the barometer, change of wind, nor the prevalence nor absence of moisture, seemed to affect it in the slightest degree; on this point there was no difference of opinion, whatever may have existed on others connected with its origin and progress."

In July, 1849, the malady again appeared in British North America, and pursued nearly the same course it did in 1834.

Some further remarks on the influence of climate on age, and the degree of sickness and mortality among the troops serving in British America, will be given when treating of Bermuda, which is included in several of the returns relating to Canada, Nova Scotia, and New Brunswick.

CHAPTER III.

POPULATION, COUNTIES, CHIEF TOWNS, LAND CULTIVATED, AGRICULTURAL PRODUCE AND LIVE STOCK OF EACH COUNTY; GOVERNMENT, LAWS, MILITARY DEFENCE; EDUCATION, THE PRESS, RELIGION, CRIME; FINANCES, REVENUE AND EXPENDITURE, TARIFF, COMMERCE, IMPORTS AND EXPORTS, STAPLE PRODUCTS AND MANUFACTURES, MINES, QUARRIES, AND FISHERIES; PRICES OF PROVISIONS, WAGES OF LABOUR, PROPERTY ANNUALLY CREATED, MOVABLE AND IMMOVABLE WEALTH, COINS AND BANK NOTE CIRCULATION, PROJECTED RAILROAD FROM HALIFAX TO QUEBEC.

WHEN first discovered by the Europeans, Nova Scotia, as well as other parts of America, was inhabited by Indians of a reddish-brown colour, with high cheek-bones, large lips and mouths, long black coarse hair, and fine, intelligent, penetrating eyes; the males being from 5 feet 8 inches to 6 feet in height, with broad shoulders and strong limbs. The two principal tribes, the Mic-macs and Richibuctoos, differing in features and in dialect, were equally savage in their mode of life and manners, but to some extent civilized and made nominal Christians, by the early French settlers, who trained the Indians to assist them in their contests with the English.

The wars between the rival nations for

the possession of Nova Scotia, the introduction of the small-pox, and, above all, the maddening effects of the unlimited use of spirituous liquors, have swept off nearly all the Indians from the face of the country of which they were once masters, and only a few hundreds, principally of the Mic-macs, are still to be found. Indolent in the extreme, except when roused by the stimulus of hunger or revenge, the Indian dreams away a monotonous existence—his only wants are food, raiment, and shelter of the simplest kind; and probably within a few years, the remnant of this species of the human race will have entirely passed away.

I have been unable to obtain accurate de-

tails of the early progress of population in the colony: in 1749, about 140 years after the settlement of the colony, the Acadians amounted to 18,000 in number; after the removal of these people from Nova Scotia in 1755, the British settlers were computed at only 5,000, but in 1764 the number of souls was stated at 13,000, including 2,600 Acadians, who had returned to the province. In 1772, the reported number was 19,120; but in 1781, in consequence of considerable emigration taking place from the colony,

the number was reduced to 12,000. Two years after, 20,000 loyalists arrived, and the number increased to 32,000; but by the subsequent separation of New Brunswick, Prince Edward's Isle, and Cape Breton into distinct governments, the population of Nova Scotia was of course diminished. In 1807 the inhabitants were estimated at 65,000 (exclusive of Cape Breton Island). A census was taken in 1817, another in 1827, and a third in 1837, the result of each being as follows:—

Counties in 1817.	Whites.		Free Blacks.		Total in 1817.	Total in 1827.	Increase in 10 yrs.
	Males.	Females.	Males.	Females.			
Halifax	15,181	13,929	391	350	29,851	46,528	—
Hants	3,587	2,956	82	60	6,685	8,627	1,942
Annapolis	4,861	4,461	171	228	9,721	14,661	4,940
King's	3,457	3,275	64	49	6,845	10,208	3,363
Shelburne	5,586	5,892	232	256	11,946	12,018	72
Queen's	1,421	1,410	139	128	3,068	4,225	1,227
Lunenburg	3,465	3,052	58	53	6,428	9,405	2,777
Sydney	3,531	3,100	246	214	7,091	12,760	5,669
Cumberland	1,641	1,348	29	30	3,048	5,446	2,398
Total	42,730	39,423	1,412	1,348	84,913	123,878	21,288

The foregoing is exclusive of king's troops, whose numbers amounted, in 1817, to 1,302; and also of Cape Breton Isle, which contained, in 1817, 14,000 inhabitants; and in 1827, 30,000.

It will be observed that the census of 1827 is differently arranged from that of

1817; the number of males, during the former period, was 72,971, and of females, 69,577; the annual births, 5,216; the deaths, 2,124; and the marriages, 1,073.

The aggregate of the census of 1827 shows the number of male and female servants, exclusive of masters, as follows:—

Population of Nova Scotia in 1827.

Counties and Districts in 1827.	Population.					Births.	Marriages.	Deaths.
	No. of males in the county exclusive of labourers or servants.	No. of females in ditto, exclusive of servants.	No. of labourers, or male servants.	No. of female servants in ditto.	Total No. of souls in the county.	No. of, in the county during the year.	No. of females married in the county during same period.	No. of, in county during same period, including labourers.
Halifax County:—								
Peninsula of Halifax	5,546	6,466	1,321	1,106	14,439	384	87	520
District of Halifax	4,898	4,614	689	345	10,437	370	105	157
" Colchester	3,606	3,597	315	185	7,503	334	58	77
" Pictou	6,704	6,291	408	296	13,949	501	70	115
Counties of:—								
Hants	3,901	3,692	619	415	8,627	330	95	362
King's	4,756	4,654	537	261	10,208	339	71	115
Annapolis	7,152	6,917	339	253	11,661	435	65	100
Shelburne	6,133	5,885	273	288	12,018	635	129	121
Queen's	1,936	1,915	251	123	4,225	133	26	77
Lunenburg	4,531	4,288	315	271	9,405	331	78	123
Cumberland	2,568	2,115	285	118	5,416	242	46	49
Sydney	6,255	5,775	431	222	12,760	508	126	89
Total	57,986	56,509	5,783	3,913	123,848	1,563	945	1,908

The following table, derived from the "Blue Book" for 1847, gives the latest census that has been taken in Nova Scotia, and shows the number and names of the counties into which it is divided:—

Abstract of Census of Nova Scotia in 1837, from "Blue Book" for 1847.

Counties.	Heads of Families.	Under 6 years.		Under 14 years.		Not Heads of Families. Over 14 years.		Total.
		Male.	Female.	Male.	Female.	Male.	Female.	
Halifax	4,323	2,991	2,918	2,871	2,774	3,694	8,999	28,570
Colchester	2,050	1,009	1,211	1,467	1,310	2,121	1,476	10,674
Pictou	3,199	2,118	2,333	2,295	1,979	6,030	3,361	21,615
Hants	1,809	1,277	1,233	1,256	1,921	1,591	3,011	11,399
King's	2,092	1,503	1,435	1,595	1,473	2,100	3,511	13,709
Annapolis	1,962	1,328	1,267	1,249	1,128	3,462	1,593	11,907
Yarmouth	1,471	1,106	1,062	1,094	972	1,067	2,120	9,192
Shelburne	1,069	720	670	768	710	1,305	909	6,151
Queen's	925	671	624	579	586	796	1,617	5,798
Lunenburg	1,925	1,409	1,239	1,498	1,374	1,454	3,156	12,055
Guysborough	1,191	912	842	886	859	930	1,817	7,147
Digby	1,411	1,056	1,008	1,065	926	1,193	2,530	9,189
Sydney	1,565	1,439	1,163	1,242	1,213	1,291	1,222	9,135
Cumberland	1,236	894	873	953	792	1,182	1,642	7,572
Cape Breton	2,255	1,762	1,643	1,686	1,405	3,538	1,792	14,111
Inverness	2,159	1,560	1,601	1,601	1,397	3,378	1,751	14,099
Richmond	1,219	894	888	899	816	916	1,571	7,203
Total	34,891	22,949	22,040	23,004	21,615	36,048	42,438	199,906

Note.—There is an apparent error of 652 in the return for Inverness, which there is no means of correcting until the census of 1851.

In the ecclesiastical returns for 1847, the population of several of the counties is estimated for that year; and, if correct, there has been a large increase of inhabitants since the census of 1837: thus Sydney contained, in 1837, population, 9,135; in 1847, 17,000; Colchester, 10,674 and 14,000; Pictou, 21,165 and 30,000; Guysborough, 7,147 and 10,000. The population of Nova Scotia was estimated in 1848 at 230,200, viz., City of Halifax, and county, 40,000; County Cumberland, 10,600; Colchester, 14,900; Pictou, 30,300; Sydney and Guysborough, 23,200; remaining counties, 111,260. The population of Cape Breton was estimated in 1848, at 49,600. It is now probably more than 50,000. The estimate of the population in Nova Scotia and Cape Breton for the year 1850, it is supposed will not be far short of 300,000.

The population of Nova Scotia is composed of various races, viz., French, English, Irish, Scotch, and Anglo-Americans, who quitted the United States at the period of the revolution, and, desirous of remaining subjects of the British crown, sought a new home in Nova Scotia. The French, or as they are termed Acadians, are chiefly located in the township of Clare, Annapolis, Isle Madame, and other parts of Cape Breton.

The Acadians, whose history and misfortunes are given in a previous page (163), strongly resemble in appearance, manners, and customs, the *Habitans* of Eastern Canada. As an illustration of the tenacity with which the Acadians adhere to their ancient costume, and discountenance among themselves the adoption of any other,—Mr. Macgregor mentions that an unlucky youth having put on an English coat, received ever after, the sobriquet of "Joe Peacock." They are an industrious and peaceable race, and have been treated, subsequent to their first expulsion from Nova Scotia, with justice and kindness. Many of both sexes are engaged in the Cape Breton fisheries.

The Irish are chiefly found in the capital (Halifax); the Scotch, at Pictou and in the eastern districts; the Anglo-Americans, in the west and midland counties. In the county of Lunenburg, there is a race composed of the descendants of a body of German and Swiss protestants who emigrated from Rotterdam in 1753. A Highland settlement was formed some years ago at Pictou; and the representatives of the brave men who fought at Culloden, still preserve the habits, and cherish the loyal feelings which distinguished their ancestors. Wherever there

is a Highland village on the midland coast, a piper is to be found who delights the rustic audience with the martial music which has so often cheered the Scotch in their march to battle; or he animates the festive meetings, where strathspeys and reels are danced with an energy and glee which is not surpassed in the Highlands of Caledonia.

The dark-coloured race in Nova Scotia are the descendants of runaway negroes from the southern part of the United States; of the Maroons of Jamaica, who, on their surrender, after the Maroon war, under a promise to receive lands in another colony, were conveyed to Nova Scotia—than which, a more inappropriate place, as regards either climate or productions, could scarcely have been chosen. In 1800, it was found necessary to remove the greater part of them to Sierra Leone. During the American war, 1812-13-14, many American slaves were received on board British ships of war, and landed at Nova Scotia. Several of these were removed to Trinidad in 1821. The survivors and descendants of these two immigrations are located chiefly at Prescott and Hammond's Plains, in the vicinity of Halifax, and their numbers are now between 3,000 and 4,000.

The Indians still form a distinct class of people; but there are only a few hundred of them left in Nova Scotia.

The classification of the inhabitants according to religion was, according to the census of 1827; churchmen, 28,659; Presbyterians, 37,225; Roman Catholics, 20,101; Methodists, 9,408; Baptists, 19,790; other denominations, 8,365. The census of 1837 does not distinguish the religious profession of the people. Happily there are no animosities on account of religion or of race. Sir John Harvey, the present respected Lieutenant-governor of the province, in a despatch to Earl Grey of the 18th of October, 1818, says: "Men of different races cherish their national remembrances and attachments with mutual respect for each other's feelings, and their descendants form one race, and are known by but one name." The Nova Scotians are a loyal, brave, and intelligent people, gifted with high natural endowments, of prepossessing appearance, pleasing manners, and very hospitable. The society of the colony is more gay and polished than that usually found in a provincial settlement, and its tone is entirely British.

Halifax, the capital of Nova Scotia, and the third city in British America, is situated in

the county of the same name, on the fine harbour before described, in $44^{\circ} 40'$ N. lat. $63^{\circ} 10'$ W. long. The harbour is formed by a bay about 16 miles deep, narrowed in the middle by an island, above which it again expands into what is termed the Bedford Basin, which covers an extent of 12 square miles. The channels E. and W. of McNab's Island are protected by York Redoubt, Sherbrooke Tower, East Battery, and several others.

The city of Halifax is built on the E. side of a small peninsula on the declivity of a hill, which rises gradually from the water's edge; its length being about two miles, and its breadth about half a mile, with wide streets, eight of which extend through the city, and are crossed by fifteen smaller ones. Along the water's edge are numerous commodious wharfs, close to which ships can lie for the discharge of their cargoes; above the wharfs are the warehouses, and as the acclivity is ascended are to be seen the houses of the citizens, public buildings, &c. Many of the private residences are handsomely built of stone, and the houses, of wood plastered or stuccoed, have in several instances an imposing appearance. The public edifices are substantial structures; the Government-house at the S. end of the capital is an antique baronial looking structure, and the Admiral's house, a plain stone building, at the N. end commands a view of the harbour, telegraphs, shipping, &c. The "*Province Building*," erected for the accommodation of the government offices, is one of the finest edifices in our American colonies; it stands nearly in the centre of Halifax, is 110 feet long, 70 broad, and 45 feet high; the Ionic columns are of finely polished freestone, and the whole structure combines elegance with strength and utility. It contains chambers for the Council and Legislative Assembly, the Supreme Court, and all the provincial offices. The Military Hospital and other structures at Halifax do honour to the taste and judgment of the late Duke of Kent, who, when Commander-in-Chief in Nova Scotia was universally beloved. The dock-yard, one of the largest and best stored in the British Colonies, covers an area of 14 acres.

Halifax has, of late years, rapidly advanced in prosperity; in 1790 it contained only 700 houses and 4,000 inhabitants. During the late war, as a military naval station, and the rendezvous for prize ships, the city acquired much wealth. In 1817 it

was declared a free port, and had then 1,200 houses. In 1827 the houses were in number 1,580, and the population 14,439. The population is now nearly 25,000. Many of the houses are still built of wood, but the number of stone and brick buildings is yearly increasing. The trade of the port is brisk, but conducted with such prudent probity that in eight years there was but one bankruptcy among the mercantile community. There are several soap, candle, leather, snuff, and other manufactories, and distilleries and breweries. The markets are well constructed, and supplied with abundance of excellent meat, poultry, fish, vegetables, and fruits, at reasonable prices. The wharfs are large and commodious; the facilities for embarking and disembarking goods perfect, and fresh water is good and plentiful. The port is, therefore, a favourite resort for all persons engaged in maritime pursuits, and an agreeable station for naval and military officers. The following are the distances from Halifax to some of the principal adjacent positions—Cape Breton, 130 miles; Prince Edward's Island, 160; Fort Cumberland, 145; St. Andrew's, 263; Fredericton, 276; St. John's, New Brunswick, 196; and Annapolis, 130; Liverpool, England, about 2,700; Boston, United States, 280 miles.

COUNTIES.—According to the latest government returns, Nova Scotia is divided into 14 counties, five of which occupy the central portion, two the eastern, and seven the western. This appears to be the existing territorial arrangement, which is scarcely worth fuller investigation, since from the recent despatches of the Lieutenant-governor it appears probable that a more equable distribution will speedily be organized, by which the elective franchise and the advantages of municipal incorporation may be made more extensively available. The five central counties are Halifax, Colchester, Cumberland, Pictou, and Hants, of which *Halifax*, from containing the metropolis, from position and population, is the most important. It comprises four townships, viz., Halifax, Dartmouth, Preston, and Lawrence Town. The land included in the first is said to be the worst in the province; but the coast is almost one uninterrupted succession of harbours, upon each of which a few fishermen have established themselves. Upon that called Sambro, which is safe and of easy access, a settlement was founded in 1780; it now contains a small population, almost wholly employed in fishing. The soil

about St. Margaret's Bay is fertile and well cultivated. The township of Dartmouth lies on the eastern side of Halifax harbour, and contains land, much of which is rendered very productive by the skill and industry of the descendants of the original German settlers. A chain of small lakes intersects the province, which being connected with the source of the Shubenacadie River, greatly facilitated the formation of the fine canal which now completes the water communication between Halifax harbour and the Bay of Mines. The town of Dartmouth was founded in 1750, almost totally destroyed by the Indians in 1756, in part restored by the establishment of a whale fishery in 1784, again impoverished by the emigration of a large portion of the recent settlers in 1792. During the war it greatly increased in size, population, and wealth, and even since the peace it has improved rather than declined, though it cannot in any degree compare with its powerful neighbour Halifax. The township of Lawrence Town lies E. of Dartmouth, and continues about 12 miles along the coast. The soil is rocky and barren, with here and there spots of "intervale" or marshy land. The country behind forms the township of Preston, which was granted in 1784 to 388 proprietors—loyalists, disbanded soldiers, and free negroes. The negroes showed unusual energy, but were removed to Sierra Leone, where a large number of them speedily perished. The remainder of Halifax County not included in the township is generally of inferior and stony soil, yet it contains some thriving settlements, especially on the banks of the Musquodoboit River, and is adorned by several kinds of fine timber.

Colchester (formerly a part of the county of Halifax), is situated E. of the river Shubenacadie, and contains three townships, Truro, Onslow, and Londonderry, besides the settlements of Economy, Stewiack, Tattamagouche, Salmon River, Shubenacadie, Brookfield, &c.

The township of Truro, which comprises 30,000 acres, has a highly pleasing aspect when viewed from the high land on the north-east. The whole sweep of the Basin of Mines, as far as Cape Blomidon, embracing a space of more than 60 miles, is distinctly visible, while the two villages, into which the township is mainly divided, with their level marshes relieved by finely swelling uplands, and sheltered by wooded and undulating hills,

compose the foreground of this beautiful landscape. The indenture made by the Shubenacadie on its western boundary, is a striking feature in this scene, and when viewed with a previous knowledge of the singular character of the river, it invests it with a peculiar interest. The Shubenacadie, at the ferry, where it is a mile in width, rises 50 feet at flood tide, and at the distance of 12 miles, 25 or 30 feet. At times the stream runs at the rate of seven and eight miles an hour, but notwithstanding the rapidity of the current, the river is securely navigable to the distance of 30 miles, by those acquainted with its eddies. Its banks are precipitous, but in general of that formation which admits of the most fantastic appearances, being shaped by the waters, and in many places fringed and overhung by trees of great beauty. But these banks, so romantic and inviting to the lovers of natural scenery, are also enriched with inexhaustible treasures of gypsum and lime. Quarries of excellent freestone are equally accessible. The line of the bay, being almost everywhere level, presents, with the exception of Savage's Island and the site of the Presbyterian Meeting-house, only those views which the industry of man has created.

The houses are well built, and the township has handsome churches, a court-house, custom-house, and other public buildings, with good roads to Halifax, Pictou, &c. The adjoining township of Onslow contains land of excellent quality and valuable coal-mines. The same remark applies to Londonderry, and indeed to the several settlements before-mentioned, which together form a tract of country remarkable both for beauty of scenery, for vegetable and mineral wealth.

Pictou contains three townships, viz., *Pictou*, *Egerton*, and *Maxwellton*. The general appearance of this district resembles that of most parts of the province, its surface being everywhere diversified by hill and dale, seldom approaching to the altitude of mountains, and nowhere presenting any very extended plains. In consequence of this inequality in its formation, it is well irrigated by streams and brooks, which, by their union, form several rivers. Of these, the East and French Rivers fall into *Merrigomish*, the East, Middle, and West Rivers, flow into the harbour of *Pictou*, and Big and Little Rivers discharge themselves into *Carriboo*, between which and the boundary of the district of *Colchester*, are the rivers *Toney* and *John*.

The north coast, though last settled, is evidently a most important part of *Nova Scotia*. The fertility of the land, its proximity to the fisheries, its coal and other mineral productions, naturally lead to the conclusion that it will, at no distant period, be the seat of enterprise and wealth. The harbour of *Pictou* is admirably situated for becoming the emporium of the trade of the Gulf of St. Lawrence, and is already the centre of enterprise in that part of the province. Between *Baie Verte* and the Gut of *Canso*, it occupies a nearly central position; and from the latter place to *Quebec*, although there are several harbours, both sheltered and commodious, it is not surpassed by any, either in facility of entrance, good anchorage, or general safety. It has a bar on its mouth, on which is 22 feet at low water; inside the bar, it becomes a capacious and beautiful basin, with five, six, and nine fathom anchorage on a muddy bottom.

The chief town, also named *Pictou*, situated about three miles from the entrance of the harbour, is a free warehousing port, and has a large and increasing trade in timber, coal, and fish. The first house was built in 1790; in 1827, it contained a population amounting to 1,439 souls, with annual exports to the value of £100,000. The houses are good, many of them being built of stone, and there is an excellent academy, library, and grammar school, besides the more ordinary public buildings. The people are chiefly of Scottish descent, and remarkable for their unwavering attachment to the language, music, and costume of the land of their forefathers. The soil of this county is in general very favourable to agriculture, and susceptible of a high state of cultivation; and the last census of produce (that of 1827) shews a great quantity of wheat raised within the county.

Cumberland county is bounded on the N.W. by *Chignecto Channel*, the *Missisquoi* River, and part of *New Brunswick*; on the E. by the Straits of *Northumberland*; on the S.E. by the district of *Colchester*; and on the S. by part of the Bay of Fundy. Previous to the year 1784 (when *New Brunswick* was created a separate government), the township of *Sackville* was contained within the limits of this county, but it is now a part of *New Brunswick*, and is called *Westmoreland*. *Cumberland* county contains two townships, *Amherst* and *Wallace*, and a considerable num-

ber of settlements not comprised within either; viz., Fort Lawrence, Maccan, Nappan, Minudie, West Chester, Pugwash, Fox Harbour, River Philip, Goose River, &c. Adjoining the boundary line, is Fort Lawrence settlement, lying between the Missiguash and the La Planche. On the former river, which is navigable about two miles, there are 2,000 acres of dyke land, one half of which is in New Brunswick; and on the latter river 4,000 acres, one half being in New Brunswick, and the other in Nova Scotia. The fertility of this county is unquestionable, and not inferior to any other portion of America of the same extent. Here stood the rival forts of Lawrence and Beau Sejour (now Cumberland), separated from each other by the little stream of Missiguash. From the bastion of Beau Sejour fort there is a splendid view, embracing the great Tanteimarr and Missiguash meadows, Baronsfields, Westmoreland, and the country at the foot of the Shepody mountains; vast stacks of hay cover these alluvial lands, as far as the eye can reach, and the substantial farm-houses, and numerous herds, bespeak a wealthy and independent yeomanry.

The township of Wallace contains several flourishing settlements. Wallace Town is situate at the mouth of the noble bay of that name, which is navigable for the largest ships above six miles, and for smaller ones above 12. The river Renssieg, after a course of 25 miles, discharges itself into the bay. Pugwash Bay is one of the finest harbours in the county; and the shore is so bold that vessels of 500 tons burthen may lie at all times in safety within 20 yards of it; above the channel, which is not more than a quarter of a mile wide, it becomes a beautiful basin, into which the Pugwash River discharges itself. The river Philip, which unites with several others, also discharges itself into the sea, near Pugwash Harbour. Fox Harbour, on Pugwash Bay, was settled 30 years ago by Scotch Highlanders.

Besides coal, freestone, and grindstone, gypsum abounds at the head of Chignecto Bay, and occasionally on the Maccan. Lime is also found in the vicinity of Amherst, at the river Philip, and at Maccan and Nappan. Although its value in agriculture is not unknown to the inhabitants, it has not been often applied, nor is it probable that it ever will be: the numerous bays, rivers, creeks, and coves by which Cumberland is intersected, presenting in the alluvial deposit a more simple and not less valuable manure.

The dyked land in this county, exclusive of salt marshes and intervale, exceeds 17,250 acres. West Chester is situated in the centre of the county, on the Cobequid highlands. It was settled by loyalists from New York; but, although the soil is good, the position appears to have been ill chosen, and the settlement has not prospered. The inhabitants of this county are chiefly emigrants (or their descendants) from New York, from the North of Ireland, and from the county of York in England.

The county of Hants is bounded on the W. by Horton, on the N. by the Basin of Mines, on the E. by the Shubenacadie River, and on the S. by parts of the counties of Halifax and Lunenburg. It contains six townships, viz., Windsor, Falmouth, Newport, Rawdon, Kempt, and Douglas.

Windsor, the shire-town of Hants County, is delightfully situated on the Avon River, and contains many respectable private residences and good public buildings; it is distant from Halifax 15 miles, the road to which has been rendered level, and is kept in an excellent state of repair. After passing the boundary of Halifax County, the appearance of the land indicates a decided change in its quality. The sombre spruce and fir, and the dwarf birch, that clothe the country for 20 miles from the capital, are succeeded by a growth of beech mingled with hemlock, elm, and maple; and the surface of the ground is no longer encumbered with heavy masses of stone. From the Ardoise hills the whole of this township is displayed to view, and on a nearer approach it loses nothing of the *prestige* imparted to it by the distant prospect. It was held in great estimation by the French, on account of its extensive and fertile meadows, which they inclosed with dykes, and brought into a high state of cultivation. The crops of wheat raised here were so exceedingly abundant, that for many years previous to the war of 1756, a great quantity was annually exported to Boston.

Newport Township lies on the eastern side of the St. Croix. The upland is good, especially on the banks of that river and the Kenneteook; it is well cultivated and thickly settled. Douglas Township is one of the best in the province, from the large proportion of intervale, marsh, and upland which it contains, and its great mineral resources. The lands on the Shubenacadie are of unsurpassed fertility. Falmouth and Rawdon have fertile uplands. Kempt, which

is situated on the borders of Mines Basin, has good cod and herring fisheries.

The eastern portion of Nova Scotia now contains two counties, viz., Sydney and Guysborough; but the latter has, till very lately, ranked only as a township, and as such will be mentioned here. Sydney is divided in two districts, Upper and Lower; the Upper forms a triangle, the S. side of which measures 36 miles, the W. 25, and the sea-coast, including the circuit of St. George's Bay, about 50 miles. In an agricultural point of view it is far superior to the Lower District, and notwithstanding the numerous harbours and valuable fisheries possessed by the latter, it is much more densely populated. A large portion of its inhabitants are Scotch; an extensive tract on the N. coast has received the name of Arisaig, and includes settlements called Knoydart, Moydart, &c.

The township of Dorchester, or Antigonish, situate on or about the bay of that name, contains the shire-town of the district, also called Dorchester. It is an orderly and pretty place, with a court-house, a handsome Roman Catholic chapel, a presbyterian and Baptist church, and good private houses. The harbour is six miles in length, but the entrance is narrow and difficult. The land round St. George's is formed into the settlements of Pomquet, Tracadie, and Aubushée, the inhabitants being chiefly Acadians, who pursue the "quiet tenor of their way," here, much in the same manner as elsewhere, but that they employ themselves more in the fishing and coasting trade. The Lower district extends, on its interior or northern boundary, from Cape Porcupine, at the N. end of the Gut of Canso, to the eastern boundary of the district of Halifax, 40 miles; on its western side, from the southern boundary of Pictou to the mouth of Ekemseeegam Harbour, 30 miles; and on the sea-coast, including the shore of Chedabucto Bay, 120 miles. According to Bouchette, the township of Guysborough reaches from Crow Harbour to the northern bounds of the lower districts. The original grant was 100,000 acres, made to some American loyalists in 1781. The land of this district is extremely good, but the fisheries afford such lucrative employment, that it is cultivated little more than sufficiently for the internal supply.

The Bay of Chedabucto is the best fishing-ground in Nova Scotia, and can scarcely be

surpassed in productiveness by any other in the world. Great quantities of cod appear early in the season, and, in the summer, herrings of good quality abound. The shoals of mackerel in spring and autumn are of almost incredible extent. Mr. Murray states, that in Guysborough Harbour, 2,000 or 3,000 barrels have been caught in one day, and a seine has sometimes been known to enclose from 800 to 1,000 barrels at a single draught. Crow Harbour and Fox Island are the chief seats of the fishery. The township of Manchester lies between Milford Haven and the Gut of Canso. The soil is very good. The land on the coast of the Atlantic is of the usual description: remarkable for the excellence of its harbours. Country Harbour is a noble port, navigable for the largest ships ten miles above its entrance. On the eastern side, a small town, called Stormont, was built by American refugees, in 1784, but it does not appear to have prospered. Sherbrooke, situated at the head of the navigation of the fine stream St. Mary, is accessible to vessels of 50 to 100 tons, and has a considerable lumber trade.

We now turn to the counties which occupy the western portion of Nova Scotia, beginning with *King's County*, which is bounded on the N. by the Bay of Fundy, on the S. by Lunenburg and Hants, on the E. by Mines Basin, and on the W. by Annapolis. It contains four townships, viz.: Horton, Cornwallis, Aylesford, and Parrsborough. Horton was originally settled by the French, and in it was situated the French village of Minas, of which few traces now remain, excepting the scattered groups of willows, the invariable appendage of an Acadian settlement. The "Grande Prairie" comprised upwards of 2,000 acres of land, dyked and inclosed by the Acadians; and besides this, there were about 5,000 acres also inclosed by their diligent labour. Some years after their expulsion, the emigrants from New England, in 1760, found the dykes in a state of great dilapidation, and the meadows under water; but, with much difficulty and considerable expense, the embankments were restored, and the land has become surprisingly productive.

Kentville is the chief place in the township: it stands on the borders of Cornwallis; the river Gaspareaux, which flows through it, abounds with excellent fish, and is famous for a species called "gaspereaux." Cornwallis Township has an excellent soil, and, from its beauty, has been styled "the garden of the province;" but the adjoining township of

Aylesford is little inferior to it in either respect. Parrsborough is broken and hilly, but not unproductive. The village of that name stands on the neck of land between the bay and Mines Basin, and from thence packets sail frequently to and from Windsor and Horton.

In this district there is a view of singular and remarkable beauty, which opens unexpectedly on the traveller who descends the Horton mountains. A sudden turn of the road displays at once the townships of Horton and Cornwallis, and the rivers that meander through them. Beyond is a lofty and extended chain of hills, presenting a vast chasm, apparently burst out by the waters of 19 rivers, that empty themselves into the Mines Basin, and thence escape into the Bay of Fundy. The variety and extent of this prospect, the beautiful verdant vale of the Gaspereaux, the extended township of Horton, interspersed with groves of wood and cultivated fields, and the cloud-capt summit of the lofty cape, that terminates the chain of the north mountains, form an assemblage of objects rarely united with more striking effect.

Dr. Gesner says, "the scenery in the settlement of New Canaan is extensive and pleasing. Besides a view of the great valley seen from Beech Hill, we have here to the S.W. deep ravines, with steep banks, beneath which winding channels are formed, giving passage to torrents of rain, after they have descended and washed the oval summits of the hills. It is true there are no elevations of great height in this neighbourhood, but the earth is deeply furrowed by the upturned ridges of slate, and offers a landscape singularly diversified, when contrasted with the level appearance of the sandstone district, over which the lofty peak of the frowning Blomidon may be seen, ready to fall into the beautiful basin curling at its base. By turning the eye southward, a long low depression will be perceived. Here the Gaspereaux River, having taken its rise from a large lake, rolls on from cataract to cataract, or murmurs among the strata of slate, where it is compelled to pass."

The county of Lunenburg extends about 40 miles S.W. from that of Halifax, its extreme width being 35 miles, exclusive of the space occupied by nearly 300 small islands, about 200 of which are contained in Mahone Bay, and contribute to the safe anchorage for vessels of the largest magnitude which this spacious harbour affords. It is county con-

tains three townships, Chester, Lunenburg, and Dublin, the second of which is next to Halifax, the oldest formed by the English in the province. 400 families of Dutch and Germans were brought out in 1753, at the expense of the British government, which afterwards continued to contribute largely to their support. The settlement has passed through many vicissitudes. Since the war it has greatly increased both in population and wealth. Its annual exports of fish are very large. The people are honest and industrious; they continue to live in the old German style, and to speak the German language. Their houses, furniture, pictures, &c. (for they have all these), are of the same heavy and old-fashioned, but solid and comfortable description. The townships of Chester, Mahone Bay, was settled in 1760. Chester Town is situated on Mahone Bay, about nine miles from its mouth, was settled in 1760, and has a small but good harbour. It is in a thriving state. The inhabitants carry on a considerable lumber trade and fishery, and possess a number of small vessels and several saw-mills. Dr. Gesner speaks in enthusiastic terms of the beauty of Mahone Bay, declaring it to present "one of the most delightful prospects in Nova Scotia. A deep navigable basin, in which numerous islands exhibit their evergreen summits, almost surrounded by a closely populated and neatly cultivated country, are not often seen in that natural and delightful order which is here exhibited." Dublin Township is situated on the river and harbour of La Have, the lands bordering on which are stony and mountainous, but abound with fine timber. On the river there are upwards of 30 saw-mills. In the outer harbour of La Have, are many beautiful islands, affording shelter for vessels, and convenient places for drying and curing fish, of which considerable quantities are taken here. The inner harbour, formed by the river, is capacious, and navigable for 15 miles. The bar at the entrance has 12 feet at low water; inside there are soundings from eight fathoms gradually to three.

Queen's County extends about 30 miles along the coast, and contains two townships, Liverpool and Guysborough. Liverpool is the shire-town of the county, and was made a warehousing port in 1834. It is well, and even regularly built, and has an unusual number of public buildings. A handsome drawbridge, 1,100 feet long, has been erected by the inhabitants across the

harbour, at a cost of £4,000. The harbour never freezes over, and is valuable as a fishing station; but its usefulness is much impeded by a bar at the entrance, only nine feet deep at low water. On Coffin's Island, at its mouth, is a beacon 70 feet high, with revolving lights. Port Medway, the entrance to which is marked by a high hill on the western, and by low, ragged islands on the southern side, is another capacious harbour, safe and navigable; on it is situated a hamlet, bearing its name, and another called Mill Village, said to have the best land in the county. This, however, is not very high commendation; yet, Sir John Harvey speaking of this coast says: "except along some of the headlands, from the bald rocks of which the ceaseless surge of the Atlantic has swept every trace of soil or vegetation, there is a covering of earth, generally a stiff clay, often, as on the front lands of Lunenburg, Halifax, and Yarmouth, and on the 'hardwood hills,' everywhere scattered through the barrens, of great depth and proved fertility. The labour of clearing lands on this side of the province is very severe, from the prevalence of the surface-stone; but, when cleared, it is valuable, from its proximity to the open harbours, the fisheries, and the growing commercial towns." In 1783 Guysborough Township, on Port Mouton, was settled by the disbanded soldiers of a corps named the British Legion, who had served, with distinction, under General Tarleton; but a dreadful fire, which consumed nearly everything they possessed, reduced them to want. The settlement has never since prospered, and is now the abode only of a few fishermen and lumberers. The adjoining ones of Ports Jolie and Hebert, are also nothing more, although both are shoal harbours.

Annapolis County is bounded on the N. and W. by the Bay of Fundy. At the bottom is the deep bay of St Mary, formed by Long Island, and the narrow peninsula of Digby Neck. Annapolis contains large ranges, both of dyked land and productive, though somewhat stony, upland. It contains five townships, viz., Annapolis, Granville, Wilmot, Clements, and Clare. Annapolis was the capital of the province while in the possession of the French, and continued to be so under British rule, until 1750, when it was superseded as such by Halifax. The town is built on a peninsula, which projecting into the river, forms two beautiful basins, one above and below the town. The fortifications, and even many of the public buildings

of this once famous place are falling into decay from disuse; and the rise of Digby and other places in its vicinity, have greatly injured its trade, while the land immediately surrounding it, being the property of government, forms another barrier to its extension.

Granville and Wilmot Townships comprehend, for 46 miles, the peninsula formed by the river Annapolis, running parallel to the Bay of Fundy; both are well cultivated, thickly settled, and contain a large proportion of excellent land, consisting of dyke, salt marle, intervale, and upland. Bridgetown (so called from a bridge that here crosses the Annapolis) is situated at the head of the navigation of that river, and is a very thriving village.

Clement's Township possesses a rare combination of advantages in good land, valuable fisheries, fine timber, and great mineral wealth. At Moose River the Annapolis Iron Mining Company have erected a foundry, and metal of a very superior quality has been produced.

Clare Township is almost exclusively occupied by the Acadians, who here preserve their peculiar habits and customs, even more exclusively than in any other portion of Nova Scotia. It possesses a peculiar interest from having been allotted to the Acadians by Lieutenant-governor Francklin, when suffered to return from their sad exile. This district was then little better than a wilderness, but the soil was cultivable; the seaweed on the shore afforded them abundance of excellent manure; and, stimulated by the desire of creating for themselves again a position in their native land, they laboured with persevering energy until they had raised Clare into a prosperous settlement. The whole township forms but one parish; there are two handsome Roman Catholic chapels, and the people live a pious and contented life. In 1820 a dreadful conflagration destroyed nearly all their property; but the liberal contributions of the inhabitants of Nova Scotia and New Brunswick aided them in completely retrieving their loss.

The *county* (until recently a township of Annapolis County) of *Digby* occupies the strangely-formed peninsula in the Bay of Fundy which bears its name; it includes within its limits Long and Brian Island, and some good tracts of marsh and intervale land. Of its exact limits there are no data in the Colonial Office. The principal sources of its increased and increasing pros-

perity are its excellent cod and mackerel fisheries, and the shelter which it affords to vessels—the coast in its more immediate vicinity being almost devoid of harbours.

The town of Digby is delightfully situated on the basin of Annapolis, contains several good public buildings, and about 200 houses, and from its salubrious air, is much frequented as a watering-place. It had a wide celebrity for its cured herrings, known over all America under the name of Digby chickens, but of late years they have not been so numerous.

The county of Yarmouth (until recently a township of Shelburne county) forms the central portion of the W. coast of Nova Scotia, opposite the United States. The face of the county is very agreeably diversified, and in point of scenery it is one of the most beautiful portions of Nova Scotia. The climate is more temperate than that of less insulated parts of the province, the mercury very rarely falling as low as zero, nor rising higher than 80°: the mean temperature is about 48°. At a short distance from the salt water, apples, plums, and cherries, succeed well; and on the banks of the Tusket, pears, peaches, and melons ripen. The sea-breeze and the fogs, which occasionally occur in summer, render Yarmouth more suitable for the production of potatoes and grass, the manufacture of butter and cheese, and the rearing of cattle, than for the culture of grain. The soil of the upland is in general strong and productive, but requires much labour in the first instance, before it can be brought into a state of culture. The marshes, though extensive, are very inferior to those at the head of the Bay of Fundy. They yield, when dyked, good grass, but are too spongy to admit of the use of the plough, partaking more of the quality of peat, than of alluvial deposit. The principal harbour is Cape Fouchu, or Fouché, which is large and well sheltered. It is surrounded by mud flats, that are bare at low tides, but the channel is navigable for large ships, as far as the upper part of Yarmouth village, and for small craft as far as the foot of the rock at Milton, while the Sound affords good anchorage for vessels of any size.

The land is well irrigated by the lakes and rivers which intersect it. The Tusket is navigable for boats 32 miles from the sea, and for ships eight miles. Chebogue River is navigable for seven miles from the sea, and, at its mouth, expands into a good harbour.

The growing importance of Yarmouth is remarkable; its rapidly-increasing imports and exports, and the high state of cultivation of the greater part of the district, speak volumes for the skill and energy of its inhabitants, whose enterprising character is evidenced by the sad fact, that from the formation of the settlement in 1760, to 1837, the number of vessels lost belonging to Yarmouth was 167; and of these, 34 were never heard of.

Shelburne county is bounded on the S. and W. by the Atlantic. It is, on the whole, a stony and intractable country, traversed in the interior by ranges of the Blue Mountains; but it contains several good rivers;—the Tusket River, before mentioned; the Sable, which has a course of 20 miles; the Jordan forms the fine harbour of Shelburne, considered one of the best in America; and the Clyde, (so called from its resemblance to the beautiful Scotch river of that name) rises 40 miles in the interior, in an extensive chain of lakes, and at its junction with the sea forms the two harbours called Cape Negro. Shelburne County comprises three townships—Shelburne, Barrington, and Argyle. Shelburne Township was founded by American loyalists, 500 families of whom arrived in the spring of 1783. They laid the plan of a spacious and handsome town, which they expected would rival Halifax; and in the autumn of the same year, their numbers were increased, by an accession of settlers, to upwards of 12,000. The town arose with astonishing rapidity. Money, to the extent of half a million, is supposed to have been lavished upon it. But one important point had been unhappily overlooked; they had forgotten, or miscalculated the long period that must necessarily elapse before the sterile soil could yield them even a precarious subsistence, in return for skilful and unwearied labour. The place was soon comparatively deserted, and is now in a very dilapidated state, notwithstanding the excellence of its harbour. On McNutt's Island, at the entrance of the haven, in lat. 43° 40' N., long. 65° 8' W., is a light-house, with two fixed lights, one above the other; the highest 125 feet above the sea. Barrington Township has a stubborn soil, but much of it is covered with a black chocolate-coloured turf, which, when carefully cultivated, produces abundant crops. The climate is much milder than in the eastern portion of the province: the inhabitants subsist almost entirely by fishing. Cape Sable Island (not that on which the first disastrous settlement was made by the

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French) is an adjoining islet belonging to this township, and the most southern point of Nova Scotia. Barrington harbour is useful only for small vessels. At the head of it is the village of that name. Argyle Township adjoins Yarmouth, which it resembles in many respects, but it does not equal it in fertility. The large expanse called Argyle Bay forms the estuary of the river Tusket, and contains about 300 islands, called the Tusquets, many of which are well cultivated, and afford shelter and anchorage for small vessels. Argyle Town was settled by loy-

alists and disbanded soldiers. It is not, at present, a place of much importance. About 13 miles from the shore lies Seal Island, which is resorted to by the fishermen for wood and water, and has been termed "the elbow of the Bay of Fundy." The principal harbour in the township is Pubnico, on which there is an Acadian settlement. There is another at Eelbrooke.

For the leading features in the different counties described in this chapter, I am indebted to Messrs. Haliburton, McGregor, Bouchette, Murray, Gesner, and others.

Production and Live Stock of each County in Nova Scotia, according to the last Census in 1827.

Counties in 1827.	Land Cultivated.	Produce.				Stock.			
		Wheat.	Other Grain.	Potatoes.	Hay.	Horses.	Horned Cattle.	Sheep.	Swine.
	Acres.	Bushels.	Bushels.	Bushels.	Tons.				
Halifax . . .	14,460	5,426	32,317	292,642	11,873	1,480	7,588	8,759	4,160
Colchester . .	29,135	18,644	64,018	292,235	16,756	1,440	10,177	12,713	6,912
Pictou . . .	49,181	58,198	98,562	126,654	11,750	1,609	11,701	21,128	12,945
Cumberland . .	29,308	14,152	34,067	269,807	13,790	1,264	8,226	11,576	5,533
Sydney . . .	39,465	21,919	38,173	363,288	15,794	848	15,706	24,349	7,705
Hants . . .	37,531	18,520	45,928	227,948	19,977	2,486	9,475	14,863	5,927
King's . . .	34,150	25,668	65,100	538,903	25,323	1,789	12,580	18,544	18,514
Lunenburg . .	13,467	1,117	33,146	334,163	10,577	202	8,978	11,238	5,331
Queen's . . .	5,630	12,362	3,476	52,817	3,577	763	2,436	2,737	1,941
Annapolis . .	22,174	5,410	385,478	26,309	21,549	1,351	13,872	27,042	6,804
Total . . .	274,501	161,416	799,665	2,434,766	150,976	13,232	100,739	152,979	75,772

The agricultural produce has much increased since 1827; but, in 1845, the potato disease appeared in Nova Scotia, and destroyed nearly the whole crop. In 1846, the disease spared the early potatoes, but none of the late planted were saved. In 1847 there was immense loss, partly from the rot and partly from the potato not growing, in consequence of the unsoundness of the seed. In addition to these calamities, the weevil, or fly, destroyed, in 1845-7, a very large proportion of the wheat crop. There has, consequently, been severe agricultural and general distress in the province, which has been borne with great fortitude; and in the midst of their privations, the colonists of Nova Scotia subscribed *one thousand pounds sterling*, to aid their suffering fellow-citizens in Ireland and in Scotland.

Nova Scotia is now recovering from its losses, and a few successive bountiful harvests will (under Providence) restore its usual plenty and prosperity. Horticulture is carried on with great success in the neighbourhood of the towns. The apple orchards of the western counties are very productive, and

extend along the road-side, through the township of Granville, in an unbroken line, for 30 miles. Apples and cider are annually exported. Potatoes are sent to the United States, cattle to New Brunswick, and sheep and live stock to Newfoundland. Fine flour is still largely imported from the United States.

According to the "Blue Book" for 1847, the total number of acres granted and sold in Nova Scotia and Cape Breton, is as follows:—

Granted.	Nova Scotia.	Cape Breton.	Total.
Acres granted	4,601,799	719,836	5,321,635
" sold	248,168	132,355	380,523
" remaining ungranted	4,353,631	1,235,109	5,588,740
" granted in 1847	30,535	6,118	36,653
Number of grants	208	60	268

About 50,000 acres have been granted for the support of religion and schools. There have been set apart for the remnant of the Indians in Nova Scotia, 12,050 acres of land, and in Cape Breton, 12,000 acres.

Sir John Harvey states that the land under

tillage in 1818, comprised 100,000 acres, and adds, that there is, perhaps, an equal amount chopped, used as pasture, or yielding from the virgin soil, by the rude process common to new countries, a valuable portion of subsistence to recent settlers. A very large part of the whole, perhaps 9,000,000 acres, is still covered with primeval forest, or has only changed its aspect for the worse from the action of fires, which, in the heat of summer, often run over uncultivated portions of the country, deforming its surface and injuring its fertility.

The grants and sales of land in Nova Scotia, from 1831 to 1840, were:—

Grants.				Sales.	
Years.	Acres.	Years.	Acres.	Years.	Acres.
1831	25,328	1836	5,474	1841	5,061
1832	6,254	1837	3,500	1842	1,924
1833	2,229	1838	1,679	1843	4,235
1834	5,327	1839	1,450	1844	8,987
1835	7,650	1840	6,225	1845	21,921
—	—	—	—	1846	35,784

During the same period, there were three grants to military offices, amounting to 2,400 acres.

Abstract of the Sales of Crown Land, &c., from the 31st December, 1838, to the end of 1846.

Years.	Number of Acres.	Amount of Sales paid in.	Installments of preceding years.
1839	10,612	£1,122	£580
1840	6,935	836	699
1841	5,061	722	278
1842	1,924	328	236
1843	4,235	583	75
1844	8,987	1,087	35
1845	21,921	2,536	42
1846	35,784	3,974	151
	95,459	11,188	2,096

The legislature of Nova Scotia has continued for three years an "Act on the Disposal of Crown Lands," which expired in 1846. The principal provisions are:—1st. The Governor and Council to name any fixed price on lands, not less than 1s. 9d. per acre. 2ndly. To grant lands, at such price as they think fit, to occupants who have held and improved the same, without authority. 3rdly. To make free grants to retired officers, and to non-commissioned officers and privates. 4thly. To make reserves, and free grants of such reserves, for the use of the Indians.

By a recent colonial act, the price is further reduced to 1s. per acre; but it is doubtful whether the measure will be confirmed.

The number of immigrants in Nova Scotia

and Cape Breton was, in 1845, 615; in 1846, 698; in 1847, 2,000; in 1848, 140.

The Lieutenant-governor strongly deprecates any extensive emigration of the poorer classes from the United Kingdom to Nova Scotia, on the ground that the province would not afford the people sufficient profitable employment.

GOVERNMENT.—The administration rests on the same popular basis described in the history of Canada. There is a Lieutenant-governor appointed by the crown.

The *Executive Council* consists of about six members, including the President, the Secretary of the province, and the Attorney and Solicitor-general.

The *Legislative Council* comprises 19 members, including the Bishop of Nova Scotia.

The *House of Assembly* is formed of 51 representatives, of whom the counties of Halifax, Pictou, Cumberland, Hants, King's, Queen's, Lunenburg, Sydney, and Guysborough, each return two members, and the other counties one member each. The island of Cape Breton sends six members to the Provincial Legislature; viz., from Cape Breton County, one; Richmond County, one; Inverness County, two; and the townships of Sydney and Arichat, each one member. Halifax township returns two members, and the remaining 18 townships in Nova Scotia, one member each.

The qualification for electors is the possession of land yielding an income worth 10s.; a franchise easily obtainable, owing to the low price of land.

The Nova Scotians enjoy self-government in all things regarding their own internal affairs, as perfectly as a reflective and practical people can desire. Halifax is the only incorporated city; but the townships possess some municipal privileges.

Military Defences.—The militia returns for 1847, show a total of 36,066 men for Nova Scotia, and 8,182 for Cape Breton=44,248. They are divided into regiments and battalions; and subdivided into about 120 companies, with 12 lieutenant-colonels; 51 majors; 362 captains; 318 first lieutenants; 349 second lieutenants; 42 adjutants; 12 pay-masters; and a full staff of commissioned and non-commissioned officers. The rank and file, between 16 and 18 years of age, are 3,618; between 18 and 45 years, 28,996; between 45 and 60 years, 5,839.

The militia regiments are officered under commissions from the crown; and when em-

bodied for actual service, are subject to martial-law. Every man in the province has a right to carry a gun, and there are few unpractised in the use of fire-arms. The militia of Nova Scotia could soon be rendered a very formidable force, to the number of about 50,000 men.

Two or three regiments of the line are always stationed in the province, which is further protected by the visits of the ships of the royal navy in summer.

The military posts and works, protected by Great Britain, and under the control of the Board of Ordnance, are Fort George or Citadel, Grand Battery, Ogilvie Battery, Prince of Wales Tower, Port Pleasant Battery, N.W. Arm Battery, Fort Needham, Fort Charlotte, George's Island, Fort Clarence, York Redoubt, Sherbrooke Tower, Sambro Island, and Sackville, all at *Halifax*; and at *Windsor*, Fort Edward; at *Annapolis Royal*, Fort Anne; and at *Cape Breton*, Sydney Battery. Various batteries have been constructed at the expense of the colony, for the protection of the different harbours along the coast: there are guns at most of them, which are in charge of the militia.

Laws and Courts.—The laws in force are: 1st. The common law of England. 2nd. The statute law of England. 3rd. The statute law of Nova Scotia. There is a Court of Error, Court of Chancery, Supreme Court, Court of Vice-Admiralty, Court of Marriage and Divorce, Courts of General Sessions of the Peace, and Courts of Probate. Besides these, the magistracy of the province, scattered over every county, possess a power of commitment for criminal offences, and for the collection by summary process of debts under £10. The Supreme Court makes the circuit of the province, and holds sittings twice a-year in each county, in addition to three terms at *Halifax*. The criminal calendar is generally very light; indeed, it may be safely asserted, that in no part of her Majesty's dominions is the average amount of crime less, in proportion to the population, than in Nova Scotia. In all these courts, natives of the province preside; and the bar, which practises before them, numbering 110 members, includes the names of but very few not born in Nova Scotia.

The *Court of Error* consists of the Lieutenant-governor and the Executive Council. Appeals lie from the Supreme Court, where the sum in dispute exceeds £300.

The *Court of Chancery* is similar in its

constitution, powers, and mode of procedure, to the Chancery Court in England. The Lieutenant-governor is Chancellor, *ex officio*. He is ordinarily assisted by the Master of the Rolls and four Masters in Chancery. No salary is attached to the office of Chancellor. His fees, in 1844, amounted to about £30. The Master of the Rolls receives a salary of £650, without fees. The Masters receive no salaries, but are entitled to fees regulated by law.

The *Supreme Court* consists of a Chief Justice and four Assistant Judges. It sits at *Halifax*, three times a-year, and in each of the counties of the province, twice a-year, and exercises a general criminal and civil jurisdiction throughout the province.

The travelling expenses of the judges, when on circuit, are defrayed by an allowance of one guinea per day to each, paid from the provisional treasury.

The *Courts of General Session of the Peace* are, in constitution and practice, similar to the Courts of Quarter Sessions in England, but the power of trial by jury therein, has been transferred to the Supreme Court.

Courts of Vice Admiralty.—The Judge of this court is also the Master of the Rolls in Chancery. No salary is attached to the office. Very little business is transacted in this court.

Court of Marriage and Divorce.—Consists of the Lieutenant-governor and the Executive Council; the Lieutenant-governor being President and the Chief Justice Vice-president. Established by Provincial Act, 4 Vict., c. 13.

Courts of Probate.—The Provincial Act, 5 Vict., c. 32, establishes courts for the Probate of Wills and granting Administrations in each county of the province. The courts consist respectively of a judge and registrar, paid by fees.

The Press.—is as free as that of England. There are at present 13 newspapers published in the capital, and five in the interior. The circulation of English newspapers has increased an hundred-fold since the establishment of the line of steam-packets, and all the leading periodicals of the United Kingdom are looked for with as much eagerness, and received with as much certainty, as the London newspapers were in Scotland and Ireland a few years ago. The cheap literature of the mother country is also widely diffused over this province, while the more expensive books find their way to the collections of the wealthy or into the public libraries.

The "Art Union" has been the means of promoting the dissemination of paintings and engravings. Among the public institutions, is the Halifax Subscription Library, the Halifax Mechanics' Subscription Library, the Halifax Mechanics' Institute, Dartmouth Mechanics' Institute, Sydney (Cape Breton) Mechanics' Institute, Pictou Literary and Scientific Society, and the Young Men's Debating Club, Halifax. There is a Central Board of Agriculture at Halifax; and twenty Agricultural Societies in Nova Scotia and Cape Breton. There is also a Horticultural Society at Halifax.

Education.—The provincial legislature, as also many private individuals, have made strenuous efforts for promoting the benefits of education. By an Act passed in 1811, any settlement consisting of 30 families, raising a sum of not less than £50 by assessment, after the manner of poor-rates, are

entitled to £25 from the treasury of the province, towards the establishment of a school or schools.

At Halifax there is a National, a Catholic, Acadian, Grammar, and St. George's schools. There are academies at Pictou, Windsor, Horton, Yarmouth, Annapolis, &c. There are besides, in the several counties and districts of the province, 1,025 common schools, at which, in 1847, 31,380 children received instruction. A large number of these are poor children, who are taught gratuitously. These schools are supported, in part, by the province, and partly by subscription. The expense of each school, including stationery and fuel, is about £30 per annum. There are also about 10 schools in different parts of the country, which are chiefly supported by the "Society for the Propagation of the Gospel." A respectable high school, or academy, is maintained in each county.

Abstract of Returns of Common Schools, for the Year 1842.

County or District.	Number of Schools.	Scholars.			Income. (Shillings and Pence excepted.)		
		Paid.	Free.	Total.	From People.	From Treasury.	Total.
Halifax, Western, exclusive of City	17	800	103	903	£389	£209	£599
Halifax, Eastern	15	..	..	491	513	140	654
Colchester	53	1,500	165	1,665	1,419	329	1,749
Pictou	78	3,872	195	3,977	2,116	542	2,688
Sydney	36	911	100	1,011	819	301	1,150
Guysborough	22	699	111	810	446	231	677
St. Mary's	13	337	54	391	233	90	324
Hants	45	1,545	132	1,677	998	330	1,328
King's	61	..	..	..	1,075	369	1,445
Annapolis	55	1,478	292	1,770	1,830	357	2,187
Digby	49	1,079	109	1,188	921	305	1,226
Yarmouth	62	..	..	..	1,276	282	1,558
District of Shelburne	18	416	30	446	320	129	449
District of Barrington	24	508	65	573	358	153	511
Queen's	50	658	33	691	510	230	740
Lunenburg	53	1,384	180	1,564	1,139	401	1,511
Cumberland	55	1,698	98	1,796	1,589	348	1,947
Cape Breton	47	1,615	156	1,771	1,019	315	1,334
Breton, Richmond	22	539	73	612	447	294	741
Island, Inverness . . . . .	..	..	..	..	..	383	—
Total	755	18,949	1,896	21,539	17,484	5,749	22,847
Combined Grammar and Common Schools	42	1,603	151	1,804	2,883	1,620	4,365
Grand Total	797	20,552	2,047	23,233	20,367	7,369	27,202

Sound education is of great importance for the preservation of the unity of the British empire; by instruction based on Christian principles, angry passions are softened, prejudices allayed, virtuous tendencies strengthened, and self-improvement promoted. An industrious, moral, and contented people are more easily governed and retained

in allegiance to sovereign rule than an ignorant and semi-civilised race, whose passions and prejudices render them the tools of any designing demagogue. It is therefore the true policy of England, to diffuse among her people the knowledge of their actual condition, to enable them rightly to appreciate their privileges and fulfil their duties.

The amount of the grants from the revenues of the province for the above schools, and for the colleges and academies in Nova Scotia and Cape Breton was £11,998, distributed as follows:—

Dalhousie College	£400
King's College, Windsor	400
St. Mary's College	444
Acadia College	444
Sydney Academy	200
Academy at Port Hood	100
Instruction of the Indians	300
Uniacke's Schools, Halifax	100
Wesleyan Schools, Halifax	100
African Schools, Halifax	100
Infant Schools, Halifax	50
Infant Schools, Pictou	50
School in Poor-house, Halifax	25
Grammar School, Halifax	150
National School, Halifax	150
Roman Catholic School, Halifax	80
Academy at Yarmouth	135
Ditto Lunenburg	100
Ditto Annapolis	75
Albion Academy at Annapolis	25
Academy at Colchester	100
Ditto Cumberland	100
Ditto Sydney	100
Ditto Guysborough	100
Ditto Cape Breton	100
Ditto Inverness	100
Ditto Richmond	100
Ditto Digby	100
Ditto Shelburne	100
Ditto Queen's County	100
Acadia School	100
St. George's School	100
Combined Common and Grammar Schools	1,620
Common Schools	5,749
Total	£11,998

By the Common School Act of 1823, the province is divided into districts, in which the people appoint their own trustees, and manage their schools on a popular basis, controlled only by Boards of Commissioners, appointed by the executive. This Act is subject to the revision of the legislature every three or four years. There is an excellent Mechanics' Institute at Halifax, and similar useful institutions in different parts of the province.

There are four collegiate institutions in the province. King's College, at Windsor, was founded in 1802, under a royal charter, his grace the Archbishop of Canterbury being the patron. The Lieutenant-Governor, the Bishop of Nova Scotia, and other provincial officers, form a Board of Directors. The statutes of the college are similar to those of Oxford, but religious tests in regard to graduates have been removed many years. The institution is under the immediate management of a president, with a salary of

£312. A professor of mathematics, natural philosophy, and astronomy, with a salary of £176; and a lecturer in modern languages and literature, with a salary of £100. There are 22 students; and in connection with the college is an academy or preparatory school, with about 23 scholars. The college is supported by temporary annual grants from the Society for the Propagation of the Gospel, and the Society for Promoting Christian Knowledge, amounting to £900 sterling in 1844, and by an allowance of £100 sterling, per annum, granted by a permanent Act of the Provincial Legislature.

Dalhousie College, at Halifax, has three professorships.

Acadia College, at Horton, was incorporated by Act of the Legislature in 1810, and is under the control of the Nova Scotia Baptist Education Society. There are three professors, and 21 students.

St. Mary's College, or seminary at Halifax, was established in 1811, and is under the control of the Roman Catholic body. There are four professors, one teacher, and 40 students.

As the different colleges are connected with different interests, and evince a sectarian rivalry, prejudicial to sound learning and the spirit of Christianity, endeavours have been made by the Earl of Dalhousie and Sir James Kempt, to procure an union of the colleges, so as to form one establishment, and place the higher branches of education on a more permanent foundation. Lord Glenelg, Lord Stanley, and other colonial secretaries, strongly recommended the measure, which has not yet, however, been carried into effect.

Religion.—The Established Church is under the direction of a bishop and an arch-deacon. In 1847 there were 35 clergymen, whose incomes varied from £150 to £250 a-year, with, in most parishes, a parsonage house and a glebe of 300 to 600 acres. The diocese of Nova Scotia was created in 1787. The Nova Scotia "Blue Book" for 1847 (which is very defective, compared with the full details given in the Blue Books of other colonies) does not state the number of ministers of Presbyterian, Roman Catholic, and other denominations.

It is difficult to state the number of ministers of the Presbyterian Church, as they are divided into several synods. The synod of Nova Scotia, "in connection with the Established Church of Scotland," had, in 1848, three ministers; the synod of Nova Scotia

"adhering to the Westminster standard," about 12 ministers in Nova Scotia and Cape Breton; the "Presbyterian Church of Nova Scotia" about 26 ministers; the "Wesleyan Missionaries in Nova Scotia and Cape Breton," number about 20; the "Evangelical Lutheran" and the "Universalist" churches, each one minister; the "Baptist ministers" are in number 49; the "Free Christian Baptist ministers" are nine; the "Free-Will Baptist ministers," seven, and two missionaries to travel through different parts of Nova Scotia; the "Free and Sovereign Grace Baptists" have one minister; the "African Baptist Church," one; and the "African Episcopal Methodist Church," one. The Roman Catholic church has two dioceses in the province, one for Nova Scotia and the other for Cape Breton. The bishop of Halifax has under him a vicar-general and 13 priests. The bishop of Arichat (Cape Breton) a vicar-general and 19 priests.

The different churches are sustained by those who take an interest in them; and religious distinctions are happily attended with few inconveniences. There are in the province a Diocesan Church Society, a Bible Society, Naval and Military Society, a Wesleyan Methodist Missionary Auxiliary Society, a Baptist Education Society, a Board for Foreign and Domestic Missions, a Lay Association in support of the Church of Scotland, St. John's Church Young Men's Religious Association, a Halifax Bethel Union, a Pictou Auxiliary Bible Society, and a Seauwen's Friend Society.

Of *charitable societies* there were also, in 1818, a Nova Scotia Philanthropic Society, a "Youths'" ditto, St. George's, Charitable Irish, Juvenile Charitable Irish, Highland, and North British societies. A Halifax Dispensary, an African Friendly, and African Abolition Society. Of *temperance societies* there are the Halifax, the Halifax Female, Dartmouth, St. Mary, and St. Patrick's societies; Halifax Young Men's, and the Pictou Total Abstinence societies; and the Sons of Temperance.

The Roman Catholic bishop took the temperance pledge publicly, and then administered it to many of his congregation. Some of the temperance processions number 400 members. Great good has been effected by these valuable institutions. Of *masonic lodges* there are 13 in Nova Scotia, and one in Cape Breton; and of the "*St. John's Priory of Knights Templars and Appendant Orders, holden of the Supreme Grand Con-*

clave of Scotland," of which Lord Glenlyon is the grand master, and the Earl of Dalhousie the grand senechal, there are three, viz.—the St. Andrew's Royal Arch Chapter, the Thistle, and the Acadia.

Crime.—The "Blue Book" for 1817, reports a nearly total absence of crime, and that there are no debtors in the prisons.

Finances.—The revenue derived from taxes, viz., customs, excise, light dues, and incidental, was, in 1812, £47,299; in 1836, £49,166; in 1816, £82,776. No part of the revenue of the province is derived from direct taxes. The customs duties are levied under the authority of the Act of the Imperial Parliament 8 and 9 Vic., for regulating the trade of the British possessions abroad, and the Acts in amendment thereof. The amount of those duties collected at the custom-house, and paid into the provincial treasury for the year ending 5th January, 1817, was £29,251 sterling. The colonial impost duties levied by authority of an Act of the Provincial Legislature, passed 31st March, 1816, yielded in 1817 £43,531.

The total revenue collected in 1817 was, *fixed customs*, £29,251; colonial imposts, £43,531; light dues, £3,318; total, £76,101; *incidental*, £6,676, including £1,760 received from savings' bank, proceeds of bills of exchange, &c.; *receipts in aid of revenue*, £18,569, including amount of bills drawn by the collector of customs on the Receiver-general in England, £3,118; stipends of clergymen of Nova Scotia paid from the military chest, £3,062; deducted from post-office revenue, £6,502; bills drawn by bishop and archdeacon on her majesty's treasury, and by clergymen on the Society for Propagating the Gospel, £4,700; *casual and territorial revenue*, £9,678, including rent and proceeds of her Majesty's coal mines in Nova Scotia and Cape Breton, £5,714; sales of crown lands, £3,108; fees, £519. The total receipts obtained in 1817 were, therefore, £111,925. The population of Nova Scotia and Cape Breton (in round numbers) is 300,000, and the taxation about £110,000 a-year, the sum contributed by each individual in the colony is only seven shillings per annum.

The tariff for 1817 was fixed by the legislature of Nova Scotia as follows:—Anchors, cables, ashes, barley, beans, books, coal, coin, copper wrought or cast, corn, fish, oil, flax, furniture (working tools belonging to emigrants for use), hemp, hides, horns, iron, wrought, cast, &c., machinery, nets, ores,

palm oil, pitch, plate, rags, rice, rosin, sails, salt, seeds, skins, sugar, maple, tar, tobacco unmanufactured, tow, turpentine, whalebone, —all admitted *duty free*. The duties on some of the other principal articles imported were, on candles—tallow, *1d.* per lb.; wax, &c., *3d.* per lb.; chocolate or cocoa paste, *1d.* per lb.; coffee, *4s. 1d.* per cwt.; clocks under 20*s.* value, *5s.*; others, *10s.*; materials for clocks 20 per cent. on value; leather, sole dressed, *1d.* per lb.; ditto upper, $\frac{1}{2}d.$; boots and shoes 10 per cent. on value; spirits made within the province, *1s. 1d.* per gal., except rum, which is charged with *7d.* per gal.; spirits imported, *1s. 8d.* per gal.; sugar, bastard, *4s.* per cwt.; crushed, *6s.* per cwt.; refined, *8s.* per cwt.; muscovado, *2s.* per cwt.; tea, black, $1\frac{1}{2}d.$ per lb.; gunpowder, *3d.* per lb.; tobacco manufactured, $1\frac{1}{2}d.$ per lb.; wines, *1s. 3d.* to *2s. 6d.* per gal.; manufacture of wood, 10 per cent.; all other goods, wares, and merchandize, 5 per cent.

The light dues yielded in 1847 £3,318, and are levied at the rate of $1\frac{1}{2}$ per ton on every vessel cleared at any custom-house in the province, and on every vessel coming into any port or place in the province from any port or place out of the province. A certificate of these dues being paid, exempts a vessel from any further payment to the 31st March following the date of the certificate. By means of this fund, which is held sacred to the building and maintenance of light-houses, and liberally supported by Canada, New Brunswick, and Prince Edward Island, 20 light houses are in full operation, under the management of a board of commissioners.

About £10,000 a-year is locally levied in direct taxation for the support of the poor, and county charges. Every adult is compelled to perform statute labour on the roads; but this labour may be commuted by a money payment, if preferred. Roads and bridges are maintained by this contribution, in aid of which the legislature grants an annual sum, which has risen as high as £35,000, and seldom falls below £25,000 a-year.

The expenditure of Nova Scotia in 1847 was, civil establishment, £12,166; customs, £9,162; judicial, £5,688; ecclesiastical, £7,662; legislature, £3,715; militia, £600; pensions, £920; roads and bridges, £30,863; education, £11,182; navigation security, £1,576; bounties, £20; postal communication, £7,163; humane establishment on

Sable Island, £2,156; famine relief for Ireland and Scotland, £1,000; penitentiary, £1,160; repairs of public buildings, £1,593; principal and interest of funded debt, £9,762; other miscellaneous disbursements, £12,595; total in 1847, £122,222; and in 1846, £109,905.

The salaries are, lieutenant-governor, £3,500; provincial secretary, £1,000; treasurer, £180; commissioner of crown lands, Nova Scotia, £500; in Cape Breton, £332; collector of colonial duties, £560; deputy post master, £500; surveyor-general, £150; private secretary to governor, £250. *Law*: chief justice, £1,000; four puisne judges, £2,510; master of the rolls, £650; attorney-general, £600; solicitor-general, £100. *Ecclesiastical*: bishop, £2,000; archdeacon £300.

Legislature.—Legislative Council expenses, £575; speaker of House of Assembly, £160; pay of members of the House of Assembly and travelling expenses, £2,096; clerk of the House of Assembly, £210; assistant clerk to the House of Assembly, £160.

The bishop of Nova Scotia has £2,000 a-year; the archdeacon, £300; and there are from 28 to 30 clergymen; missionaries of the Society for Propagating the Gospel, with salaries varying from £150 to £170 per annum. The Ecclesiastical charge for 1847, was £7,662. Paid by Great Britain.

£1,840 is voted towards steam commissions, viz., between Pictou and Quebec, £500; Pictou, Prince Edward Island, and Cape Breton, £310; Halifax and Yarmouth, £500; and £500 to the "North America," which plies between Halifax and Newfoundland.

The "Blue Book" for 1847 gives the following recapitulation of expenditure (shillings and pence excepted):—

Establishments.	Paid by Great Britain.	Paid by Colony.
Civil Establishment . . .	£4,407	£3,200
Contingent Expenses . . .	2,618	2,009
Legislature . . . . .	. . .	3,715
Judicial Establishment . .	2,480	2,480
Contingent Expenses . . .	45	683
Ecclesiastical Establishment	7,662	. . .
Military . . . . .	. . .	695
Customs	9,383	80
Miscellaneous Expenses . .	7,987	73,792
Pensions	200	720
Total	£34,815	£87,496
		£122,221.

In the year 1847 the public debt of the province was £77,750, of which sum about £50,000 was in circulation as paper money, under the guarantee of the provincial government.

The colonial expenditure for the year 1846-47, on account of Nova Scotia, Cape Breton, New Brunswick, Prince Edward Island, and Newfoundland, is stated in a parliamentary return, dated 20th April, 1849, to be as follows:—Military expenditure, £170,461; civil expenditure, £12,077; naval expenditure, £2,115; total, £184,656.

The expenditure incurred by Great Britain for military protection, and in aid of the civil establishment was, in 1847, as follows:—

Supplies for rations of provisions and forage, £8,709; fuel and light, £2,636; regimental and staff pay, £31,261; land and water transport contingencies, &c., £5,765; total (shillings and pence excepted), £48,374; military works of defence, £14,046; subsistence royal engineers, £1,815; subsistence royal artillery, £3,848; ordnance establishment, £1,917; barrack establishment, £2,752; barrack supplies, £317; wages, £1,408; = £26,136. In aid of the civil establishment, stipends for missionaries, £3,062; grand total, £77,572. The above is the total expense defrayed by the commissariat chest for the services stated; but many officers of the line receive their pay through their agents in London. The troops do not receive any advantage from the colony, except marching-money. The amount of bills drawn during the year 1847, was £104,979.

Commerce.—The geographical position of Nova Scotia, its fine harbours, and the maritime character of the people—to whom the sea is a familiar object from childhood, and,

“Who turn what some deem danger to delight,”

all indicate that this almost insulated province is eminently adapted for a commercial emporium. Sir John Harvey, in his Report to Earl Grey with the “Blue Book” for 1847, says:

“The farmers’ sons in the midland counties, where ship-building is also carried on, become shipwrights, mariners, or masters of coasters and plaistermen, just as the prospects of advantage are presented, or accident may give a bias to the mind. Further east the coal trade, the supply of West India produce to Canada or of agricultural productions to Newfoundland, offer to the enterprising their peculiar attractions. The west has its grindstones, cordwood, and other articles, to convey to the United States; and on the southern seaboard the coast and deep sea fisheries people the rugged caves and inlets which indent it

with a hardy race, to whom farming and gardening are but the amusements of an idle hour, whose homes and whose occupations are on the sea. An active coasting trade springs naturally in a country so situated, it becomes intercolonial almost as soon as it is generated; as in some cases only a narrow strait or arm of the sea divides one colony from another, while the supply of the British West Indies very early attracted towards those islands from Nova Scotia an extensive trade in fish and lumber.

“Prior to 1824 the foreign trade of Nova Scotia was very limited, but the changes in the commercial policy of the empire, suggested and carried through by Mr Huskisson, opened a wider field for colonial enterprise, of which the North Americans were not slow to avail themselves. With every relaxation yielded by the Imperial Parliament the foreign commerce of the colonies has attained a further development, and Nova Scotia vessels, besides their traffic with the neighbouring states, Canada and the West Indies, now trade to the Baltic, the Mediterranean, China, the Mauritius, the East Indies, the Brazils, the Havana, and our merchants and mariners are fast acquiring an accurate acquaintance with distant seas and with foreign markets in every part of the world.

“Carrying out the policy suggested in your Lordship’s despatch of 31st December, 1846, and co-operating under the auspices of Lord Elgin, the Colonial Legislatures have adopted measures for establishing among the northern group a free intercolonial trade, only modified by considerations which touch sources of revenue already pledged for indispensable fiscal obligations.

“One further change is now anxiously desired and as confidently anticipated. It is the realization of that policy, suggested in the correspondence between Lord Palmerston and Mr. Bancroft, for an unrestrained reciprocal commerce between Great Britain and the United States, and the repeal of the Navigation Laws. Such measures would give a stimulus to the trade of all those colonies; and their population would gladly welcome American vessels into their rivers and bays, provided the whole continent south to Mexico were open to their tonnage; and if their fish, timber, deals, coal, and agricultural productions were admitted on equally favourable terms into the ports of the United States. Negotiations have been suggested, I believe, between the governments of Canada and Washington on the basis of the Bill recently introduced to Congress by Mr. Grinnell, and Nova Scotia would cheerfully avail herself of any advantages which Canada may thus secure.”

The trade between Nova Scotia and Great Britain has, for some years, been almost stationary, especially as regards imports from the parent state. The exports of the province have largely increased between 1827 and 1847, especially as regards the commerce of the West Indies and North America. The total value of the exports was nearly quadrupled in 20 years; and the shipping employed was increased in about the same proportion. If the government of the United States granted reciprocity of trade to British America, Nova Scotia would be materially benefited by such an act of justice.

The trade of Nova Scotia and Cape Breton with different countries, will be seen by the following returns for the years 1847 and 1827 :

Imports, Exports, Shipping.	Great Britain.	British Possessions.			United States.	Foreign States.	Total.
		West Indies.	North America.	Elsewhere.			
<i>Imports in 1847—</i>							
Nova Scotia—value . . .	£326,726	£28,850	£177,040	£1,469	£300,418	£169,984	£1,004,187
Cape Breton „ . . .	4,189	—	10,550	2,641	8,965	1,112	27,468
Total Imports in 1847 . .	£330,915	£28,850	£187,590	£4,110	£309,383	£171,106	£1,031,955
Ditto in 1827 . .	£307,907	£190,309			£312,603		£810,819
<i>Exports in 1847—</i>							
Nova Scotia—value . . .	£68,217	£201,808	£207,808	£5,467	£258,281	£31,630	£773,211
Cape Breton „ . . .	3,587	607	29,196	1,120	16,669	6,679	57,866
Total Exports in 1847 . .	£71,804	£202,415	£237,004	£6,587	£474,950	£38,309	£831,071
Ditto in 1827 . .	£121,617	£107,738			£36,922		£267,277
<i>Shipping in 1847—</i>							
Nova Scotia	Tons. 63,370	Tons. . .	Tons. 123,909	Tons. . .	Tons. 174,406	Tons. 5,773	Tons. 367,458
Cape Breton	3,679	„ . .	25,615	„ . .	18,679	1,032	49,005
Total Tonnage, in 1847 . .	67,049	„ . .	149,524	„ . .	193,085	6,805	416,463
Ditto in 1827 . .	22,615	„ . .	100,324	„ . .	10,874		123,813
Increase	44,434	„ . .	49,200	„ . .	189,016		282,650

The principal imports at Nova Scotia in 1847, from Great Britain were, dry goods, £81,128; cordage, £23,516; chain cables, £7,249; canvass, £3,319; earthenware, £6,084; books and stationery, £3,401; glass, £6,173; hardware, £12,011; hats or caps, £2,565; iron and castings, £27,990; indigo, £2,125; nets and lines, £7,385; nails, £5,985; linseed oil, £3,125; paint, £1,581; iron pipes, £2,893; tea, £53,987; sugar, £5,075; salt, £13,347; soap, £5,740; stores, £2,082; wine, £1,461; brandy, £10,721; Geneva, £5,715.

The imports at Cape Breton were in proportion to those of Nova Scotia. The exports to Great Britain, from Nova Scotia, consisted chiefly of—flour, £8,079; corn, £3,201; meal, £5,433; lumber and timber, £35,200. Fish was exported to the West India colonies to the value of £117,000; and lumber, £35,900. To the United States, the Nova Scotia colonists exported fish in 1847, to the value of £160,700; grindstones, £13,221; gypsum, £6,716; unrefined sugar, £8,668; firewood, £6,432; and coal, £12,000. To foreign states, they exported fish to the value of £30,000.

The grindstones exported amount to 1,500 tons—12,000 pieces. The value of the grind-

stones raised in Cumberland County, in 1847, was £13,221. The gypsum exported, 25,000 tons. Coal exported from Nova Scotia, 75,000 chaldrons; and from Cape Breton, 32,000 chaldrons. Salt-springs exist in the neighbourhood of Mount Thom, in the County Cumberland, from which salt has been made. These springs are numerous in the eastern section of the province. Eight miles N. of the town of Pictou is a bed of copper ore, intermixed with majestic trees, which have been converted into coal, but still retain their natural form and external appearance; and in some instances, the vegetable fibres of the wood, impressions of the leaves, bark, and all those figures so common on the surface of the living plant. Sometimes the whole tree has been transformed into lignite; in other instances only a partial change has been effected, and the ancient herbage of a productive climate is now half stone, half coal, intermixed with green carbonate of copper, forming a beautiful efflorescence in their delicate crevices.

The Albion coal mines at Pictou, in Nova Scotia, yielded, in 1828, 4,467 chaldrons; in 1831, 8,315 chaldrons; in 1833, 19,890 chaldrons; and in 1847, 35,104 chaldrons; value £12,123. The strata is similar in

formation to those of the Staffordshire coal-fields. The Sydney mines, at Cape Breton, yielded, in 1847, 26,061 chaldrons, Newcastle measure; value £37,528. The Bridgeport mines, 68 chaldrons, 18 bushels, Newcastle measure; value £98 12s. 2d. The Cape Breton coals are similar to those of Newcastle, in England.

His late Royal Highness the Duke of York obtained from the crown in 1825, a lease for sixty years of all the mines and minerals of every description in Nova Scotia and in Cape Breton, excepting those contained in lands previously granted, where the crown had not reserved the minerals. This right was subleased to the "General Mining Association," at a fixed rent of £3,000 per annum. The operations of this association commenced in the year 1827, and have hitherto been confined to the working of coal-mines and the discovery of iron ore. The coal-mines worked in Nova Scotia are those termed the *Albion*, on the banks of the East River, in the district of Pictou, distant eight and-a-half miles from the town of that name. A railroad has been constructed from the mines to the port of shipment, as the East River is not navigable for burthensome craft to within six miles of the mines. The coal is raised from several shafts by the aid of steam and winding engines. The establishment at the mines consists of about 200 persons, employed in the mines, the foundry, railroad, barges, brick-kilns, &c.; and the town of New Glasgow owes its birth to the presence and operations of the General Mining Association. It is right, however, to state, that some of the colonists complain, that the mineral wealth of the province has been granted to the creditors of the late Duke of York, and the riches which would have materially benefited their country, and contributed to their public revenue, are abstracted for the benefit of a few individuals. The General Mining Association have, however, as far as practicable, lessened the evil of the grant by the application of English money to the working of the mines. Its capital, £100,000, divided into 20,000 shares, of £20 each, has been applied to the operations in Nova Scotia.

The Report to her majesty's government, for 1847, contains the following account of the state of manufactures in the province:—

"The manufactures of Nova Scotia are, as yet, of an extremely simple and unpretending character.

Coarse cloths, or homespuns, woven by the wives and daughters of the peasantry, are made in all the settlements, and are generally worn by that class; the more affluent dressing in English broadcloth only on the Sabbath. Some of these home fabrics are of handsome patterns. Filling-mills exist in the older townships, in which this cloth is thickened and dyed. Where these are too distant the dyeing is a simple household process. Sheep are kept on every farm, and supply the raw material. Coarse flannel for under garments, bed linen, woollen blankets, and carpets are also made. Flax grows luxuriantly; but hand-spun and woven is not considered profitable, the British article finding its way into the province at prices so low. Power-looms are unknown here. Tanning, to the extent of the preservation of all the hides grown in the country, and of those occasionally imported from South America, is also practised. The yards are not extensive, except in the neighbourhood of the capital (in some of which steam power is used), and many farmers tan their own leather in hogsheds sunk by the road-side, or in pits of the simplest construction. Leather is imported occasionally from Canada, and sheep-skins and wool are exported to the United States.

"Saw-mills are numerous; but the extensive and costly establishments, common to Canada and New Brunswick, do not exist in Nova Scotia, as we have not the pine forests to sustain them; but all the lumber required for the construction of buildings, and of ships and vessels for the supply of our own commerce or for exportation, is sawed within the country. Pine lumber is extensively shipped from the eastern ports to Newfoundland, from the western to the West Indies, forming a deck load for vessels carrying out fish. Plank and deals are also manufactured for exportation to the mother country, and, of late, sleepers for railroads have been in some demand. Occasional cargoes of ton timber are also shipped; but this branch of trade, never very profitable to individuals or advantageous to the country ere the forests had receded before the progress of cultivation, is less so now, and has been almost abandoned.

Of iron manufactures for exportation, except stoves to some of the colonies, and chain cables to the United States, there are none. Forges, however, are found in all the villages and hamlets, and are numerous in the larger towns. These supply iron-works for mills, ship-building, agricultural carriages and implements, and shoes for cattle. Stoves are imported from the Carron works of Canada and the United States, and iron manufactures of all kinds are largely imported from the mother country. The iron-mines of Nova Scotia are not worked, for want of capital. An experiment was tried at Moose River some years ago, by a company, whose skill and knowledge were not equal to their enterprise. The capital was sunk, and the work abandoned.

"Leather, to the extent of the whole quantity tanned in the country, is manufactured every year. Little is ever exported, while some comes in from England, Canada, and the United States. Boots, shoes, saddlery, and harness, are made up in all the towns and villages, but the supply of the quantity and at the prices to compete with imported articles) is not equal to the demand, England and the United States largely supplying the market, injuring it may be, for a time, but ultimately stimulating and improving the domestic manufacture.

"Household furniture, carts, carriages, ploughs, and other agricultural implements, buckets, fish-

barrels, and boxes, are made in great quantities, and various manufactories of wood flourish in Nova Scotia, and yield profitable employment to those who conduct these branches of business.

"Tobacco, confectionery, printing, and wrapping paper, hats, and some other articles are manufactured in the neighbourhood of Halifax, where are also several distilleries for the preparation of spirits from molasses. Bonnets of bleached grass, and hats of straw, are made in many of the rural districts. Buildings are of wood almost universally. Some good stone and brick houses are to be seen in Halifax, and the other larger towns, but these form exceptions to the general rule. Stone houses carelessly built are apt to be damp in this climate; a prejudice against them is in consequence generally entertained, which, added to the low price of lumber, gives wood the preference, and may for the next 20 years. But, as wood becomes scarce, more permanent structures will take the place of those usually decaying, or liable to destruction by fire. Stone for building materials, abounds in Nova Scotia. Granite of the finest quality, on the south coast, is inexhaustible. Freestone is found all along the northern shore, and slate quite equal to that of Wales in the central region."

There are no means of obtaining correct returns with regard to the fisheries, as the fishermen are not bound to take out shipping papers, and very few of the small shallops are registered. In 1837, the dry fish exported was 176,156 quintals; pickled fish, 47,693 barrels. In 1847, according to the Blue Book, the quantity of dry fish exported from Nova Scotia Proper was 224,859 quintals, value £78,600; pickled fish, 206,911 barrels, 82 tierces, 5,816 half barrels, and 4,818 kits, value £120,753; 2,089 boxes smoked herrings, value £1,506. Total for Nova Scotia, value £200,859. For Cape Breton, 56,312 quintals dry fish, value £24,419; 2,985 barrels mackerel, value £17,200; 335 barrels herrings, value £1,492; 335 barrels salmon, value £670; 12,399 barrels pickled fish, value £10,124; seal skins, £810; oil of all kinds, £8,300. Total, £63,045.

The official Report for 1847 states, that around the shores of the Basin of Mines and Bay of Fundy, great quantities of shad and bass are caught in weirs, at every flux and reflux of the tide. The Basin of Annapolis has a fishery peculiar to itself, of small herrings caught in weirs, which are smoked and packed in boxes. These are much prized, and find a ready sale in foreign markets.

The cod and haddock fisheries are actively prosecuted all along the southern coast; these fish are found in deep water very near the shores, but the principal catch is taken on the banks about ten miles off, the poorer fishermen rowing or sailing out in their whale-boats, and returning every night.

Small decked vessels are fitted out by those who are able to keep them, and these generally remain on the grounds till they have completed their lading. The Nova Scotians also participate in the Gulf and Labrador fisheries, and pay occasional visits to the banks and shores of Newfoundland. The export of cod-fish, in 1847, was 313,822 quintals, valued at £125,442 sterling.

In spring the shoals of mackerel, making their way from the south to the north, and returning in the fall, glide along the coasts and headlands of Nova Scotia, and penetrate into the coves and inlets, where immense quantities of them are caught with seines, and hauled on shore; 500 barrels are by no means an uncommon draught, and 1,000 are sometimes taken. In the autumn of 1846, mackerel were taken in such abundance, that it was difficult to procure salt and barrels for their preservation. Mackerel are also taken in nets all around the shores.

Herrings are caught at times in great quantities. The following return for 1847 will give an idea of the pickled fish trade, which is annually becoming of more importance, and which, were the markets of the United States thrown open to Nova Scotia, is capable of almost indefinite extension:—

From Nova Scotia Proper.—Alewives, 6,793 barrels, 31 kits; herrings, 22,043 barrels, 433 half barrels, 150 kegs, 353 thirds of barrels; mackerel, 186,406 barrels, 5,078 half barrels, 295 quarter barrels, 3,187 thirds of barrels; salmon, 388 tierces, 5,101 barrels, 305 half barrels, 413 thirds of barrels, 450 kits.

From Cape Breton.—32,919 barrels, valued at £29,186 sterling.

The attempts to prosecute the whale fishery have not yet assumed a permanent character, or been attended with success.

The Blue Book for 1847 states the number of ships built in Nova Scotia Proper at 221; tonnage, 25,927; and at Cape Breton, 31; tonnage, 3,521.

The vessels registered in the province in 1844 were—

	Under 50 Tons.		50 Tons and upwards.	
	No.	Tonnage	No.	Tonnage.
Nova Scotia .	1,258	35,860	632	68,086
Cape Breton .	324	10,446	132	9,296
Total . .	1,582	46,006	764	77,382

Property annually created.—Adopting the

principles laid down relative to Canada (p. 155), it may be estimated that 300,000 inhabitants of Nova Scotia and Cape Breton require each for their daily support one shilling a-day, or about £18 a-year = £5,100,000. The property annually created and not consumed, may average three-pence a-day, or £4 10s. a-year = £1,350,000; total annually created about *seven million sterling* (£6,750,000).

Movable and Immovable Property.—Land under regular cultivation about 100,000 acres—average value £10 per acre = £1,000,000; half cultivated and partly cleared, 600,000 acres, at £2 an acre = £1,200,000; uncleared, forest and wild land, 5,000,000 acres, at 5s. an acre = £1,250,000. Houses about 60,000, at £20 each = £1,200,000. Furniture, &c., about £20 for each house = £1,200,000. Apparel and personal property, each person, £4; for 300,000 inhabitants, £1,200,000. Manufactories, distilleries, &c., about £100,000. Government buildings, forts, churches, colleges, schools, gaols, &c., £1,000,000. Roads, canals, bridges, wharfs, dykes, &c., £2,000,000. Mines, quarries, forests, and fisheries, £5,000,000. Horses, £250,000; horned cattle, £800,000; sheep, £250,000; swine and poultry, £150,000. Ships and boats, £100,000. Merchandise and cash in hand, £1,000,000. Total estimated value of movable and immovable property in Nova Scotia and Cape Breton, £20,700,000.

Banks.—Three corporate institutions, viz., the Halifax Banking Company, the Bank of Nova Scotia, and a Branch of the London Bank of British North America.

Coins.—The Queen's duties are commonly paid in dollars at 4s. 2d. sterling, or doubloons at £3 4s. sterling each, or in British silver coin. The English shilling is by law equal to 1s. 3d. currency; the former value of the quarter dollar, which it has displaced, and the sovereign and the doubloon are made legal tenders at 25s. and £4 currency respectively, and the dollar at 5s. 2½d. There are no provincial coins, except copper pence and halfpence. The amount of coin in circulation cannot be ascertained.

Paper Money.—The notes of the Provincial Treasury in circulation on 31st December, 1817, were £17,974. The notes of the Bank of Nova Scotia in circulation, £50,000; notes of the Bank of British North America, £18,000; notes of the Halifax Banking Company, about £12,000; total paper currency, £187,974.

Accounts are kept in "Halifax currency." The pound currency is equal to 16s. sterling—thus £125 currency = £100 sterling. To reduce to currency *add* one-fourth; to bring currency into sterling *deduct* one-fifth.

Weights and Measures.—The same as in England.

Course of Exchange in 1817.—Bills on her majesty's government at 30 days' sight, 14 per cent. Private bills at 60 days' sight, 13 per cent. Bills on the United States, 5 per cent. premium.

Average Prices of various produce in Nova Scotia in 1817:—Wheat, per imperial bushel, 4s. 10d.; wheaten flour, per barrel of 196 lbs., 27s.; wheaten bread, per 2 lb. loaf, 3d.; horned cattle, £8 to £10; horses, £12 to £30; sheep, 10s. to 20s.; goats, 16s. to 32s.; swine, per lb., 3d. to 3½d.; milk, the quart, 3d.; butter, fresh, 9d. to 10d. per lb.; cheese, 6d. to 10d. per lb.; beef, 3d. to 6d. per lb.; mutton, 3d. to 6d. per lb.; pork, 3d. to 4d. per lb.; rice per 14 lbs., 2s. 10d.; coffee, 7d. per lb.; tea, 1s. 8d. to 2s. per lb.; sugar, per 16 lbs. 1s.; salt per bushel—coarse, 1s. 7d.; fine, 4s. per bushel; wine, 4s. to 10s. per gal.; brandy, 8s. per gal.; rum, 3s. 6d. to 4s. per gal.; beer, per 5 gals., 4s. to 6s.; tobacco, 10d. per lb.; coal, 20s. to 25s. per chaldron; mackerel, per barrel, No. 1, 20s. to 25s.; herrings, 11s. per barrel. The price of food is regulated partly by the state of the crop, and partly by the prices of bread-stuffs in the neighbouring republic, whence the supplies which Nova Scotia requires are drawn. The supply of fish also influences the price of other articles.

Wages for Labour.—*Domestics*, per annum with board, £10 to £16; females, 10s. to 15s. a month. *Predial*, 2s. 6d. to 3s. per day. Tradesmen, 4s. to 6s. per day. These figures are from the "Blue Book" for 1817; they differ in some respects from the Report of the governor to Earl Grey, dated 18th October, 1818, which is as follows:—

"The price of labour varies slightly in Nova Scotia with the price of food, 2s. 9d. and 3s. 3d. sterling per day, is paid generally by government on the public roads, upon which farmers, and farmers' sons, who have other pursuits, are chiefly employed. The rates will almost always command labour in the towns and villages, in which, however, it sometimes falls to 2s. and 2s. 9d. sterling. Farm servants receive £20 currency per annum, and their board; first-rate men in the harvest time will earn £2 18s. sterling per month; captains of merchant vessels receive £8 sterling per month; sailors £3 4s. sterling per month; mechanics are generally in demand, and can in ordinary seasons, earn from 4s. to 8s. sterling per day."

Post Office.—Branches extend into every settlement.

Steam Conveyances.—The fine line of mail steam packets originated by the enterprising Mr. Cunard, of Nova Scotia, leave Halifax weekly for England, the United States, and Bermuda. There are weekly steam-boats to Cape Breton and Newfoundland. There is also steam intercourse between Halifax and St. John's, New Brunswick, including the intervening ports along the western shore; and between Windsor, Annapolis, and St. John's, on that side of the province washed by the Bay of Fundy. A steam-boat plies in the Bras d'Or Lake, Cape Breton, and occasionally there is another between Pictou and Prince Edward Island. Lines of stage coaches run thrice a-week from Halifax to Pictou and Annapolis.

Railroads.—One rail has been laid down in Nova Scotia for the conveyance of coals from the Pictou mines to the loading ground. There are several proposed routes for a trunk line of railway from Halifax to Quebec: 1st. From Halifax to Windsor, 45 miles; Annapolis, 85; to entrance of Bay of Fundy, thence by a steamer to St. John's in New Brunswick, 45; St. John's to Fredericton, 65; to Woodstock, 62; to Grand Falls, 71; to Rivière du Loup, 106; to Quebec, 110; total distance by the St. John River from Halifax to Quebec, 600 miles. This is a mixed route by railway and steam-boat. 2nd. By the Bay of Chaleurs route, 635 miles. 3rd. The "direct route" from Whitehaven Harbour near Canso, at the N.E. extremity of Nova Scotia, to Pictou, along the coast to Bay Verte, and through the centre of New Brunswick, 652 miles. 4th. This route combines the line through Nova Scotia from Halifax, and the direct route through the centre of New Brunswick, 595 miles. 5th. The Whitehaven route through Nova Scotia, with the Eastern or Bay Chaleurs route through New Brunswick to Quebec, 692 miles.

Admiral William Fitzwilliam Owen, who is considered the ablest surveyor in the royal navy, made a survey by order of government, of the proper port for the junction of sea and land communication between Great Britain and British North America, with reference to the projected railway from Nova Scotia to Canada. Having satisfied himself that the port of Canso was ineligible, although less than 2,000 miles from the W. coast of Ireland, the admiral, after examining other havens, gave his opinion in favour

of Whitehaven, in lat. $45^{\circ} 10' N.$, long. $61^{\circ} 10' W.$, 130 statute miles N. E. of Halifax. The report of Admiral Owen contains the following account of Whitehaven:—

"We found this haven to be a splendid and convenient port, as capacious as Halifax Harbour, between George's Island and Bedford Basin, and as safe and commodious, and its approaches safe, and under any circumstances easily attainable from the open sea, and within the extreme points of perfect shelter and security, not being more than a mile of pilotage water; but the shaft or channel to the haven itself, although well sheltered and safe, yet is very narrow in some places for a distance from one to two miles, according to the channel by which entered. Mr. Shortland's plan shows all the dangers we could discover.

"The haven finishes to the N. at Pleasant River, also very convenient, and navigable for two miles by vessels of any burden, and for small craft two miles further still to its head, which northern extremity is only four miles from the high road from Guysborough and the port of Canso.

"Whitehaven Island, the outer point to seaward of the haven, is 140 feet high, and may be considered as the N. E. extremity of Nova Scotia, and the nearest available point of this continent to the British Islands, although itself isolated. The Acadian (French) settlement of Molasses Harbour is separated to the westward by a very narrow isthmus of mere heath from the western part of the haven; besides which there are not now more than eight or ten establishments around Whitehaven.

"Our inquiries relative to ice in winter were very satisfactory. Pleasant River is generally frozen all down to the haven in January and February, and in severe winters the haven has been known to be entirely frozen over, but only once known to have happened to the southward of Fisherman's Island; and the nature of the coast and entrances precludes the possibility of packed or drift ice accumulating, so that the ingress and egress is always free and open.

"It is not more or less subject to fogs than the whole of this south-eastern coast of Nova Scotia, which is all seriously inconvenienced by this impediment to comfortable navigation; and the soundings, with attention, may always give sufficient indication of approach, and the rocky ledges of the coast form an almost continued steep barrier of land."

And in another Report of 5th September, 1846, the distinguished hydrographer says:—

"Whitehaven is not only most conveniently situated—but is a splendid and most commodious port, whose immediate entrance and its harbour are never obstructed or incommoded by drift or packed ice. It has very great facilities of approach, and has only two outlying dangers or small rocks between the port and the open sea, and these only about half a mile from the shore; and in short its nautical facilities of attainment greatly exceed those of Halifax or any other point on the coast that I have seen. The upper part of its fine and beautiful harbour (like Bedford Basin and Halifax Harbour) in some winters freezes over in part, but never so as to obstruct its external communications, its approach, or its perfect safety; and its configuration, as regards the proximate coasts, prevents the accumulation of drift or packed ice either to obstruct or incommode it.

"Its shores offer no impediments to railroad termini wherever convenient, and the vicinity is (in my

judgment) perfectly practicable for rail communications. Comparing the two points nautically, Halifax is a good, capacious, fine, safe harbour; so is Whitehaven, and nothing that I know inferior to Halifax. In clear weather, by night or by day, both are equally available, and equally safe and easy of approach; so that the only circumstance still open to comparison is in the too common case, that at the time when entrance is sought into them respectively all the points and the ship herself may be enveloped in a dense fog, and possibly her own jib-boom end not visible, the most perplexing and appalling case in precise navigation to seamen. In case of fog, the attainment of Halifax harbour requires 20 miles of pilotage navigation; for Whitehaven, never more than three or four, and the last is also more surely beached."

Major Robinson, the engineer entrusted with the survey of the line, gives the preference to Halifax for a sea-coast terminus.

The total distance from Halifax to Quebec for any line of railway will be about 635 miles, which at £7,000 per mile (a low estimate) will cost £4,445,000—add one-tenth for contingencies, £144,500 = £1,889,500, or in round numbers the proposed trunk line would cost about £5,000,000 sterling.

Along the proposed line of railway from

Halifax to Quebec there are millions of acres of good productive land, only waiting for the men necessary to cultivate them. The following synopsis shows approximately the quantities of ungranted land in the counties through which it is proposed to run the railway between Halifax and Quebec:—

In Nova Scotia: Halifax County, 780,000 acres; in Colchester, 120,000; Cumberland, 180,000 = 1,080,000 acres.

In New Brunswick: Westmoreland County, 301,000; Kent, 640,000; Northumberland, 1,993,000; Gloucester, 701,000; Restigouche, 1,109,000 = 1,747,000 acres.

In Canada: Bonaventure, 2,000,000; Rimouski, 5,000,000; Kamouraska, 500,000; L'Islet, 600,000; Bellechasse, 500,000 = 8,000,000. The grand total of acres in the three provinces amounts to 11,129,000. The land for the railway would require to be purchased in Nova Scotia for nearly its whole course, and in Canada for 110 miles. If a considerable portion of the ungranted land were given to the railway projectors it would facilitate the operation.

CHAPTER IV.

HISTORY, TOPOGRAPHY, GEOLOGY, MINERALOGY, AND PRODUCTIONS OF CAPE BRETON.

THIS singular and valuable island, although included under the same government as Nova Scotia, is of sufficient importance to require a brief separate description. It lies between 45° 27' and 47° 5' N. lat. (including Madame, Scatari, Bouladrie, St. Paul's, and other minor islands), and between 59° 38' and 61° 50' W. long.; its extreme length from N.E. to S.W. being about 100 miles, and its extreme breadth from S.E. to N.W. about 80 miles. It is separated from Nova Scotia by St. George's Bay, and the narrow channel, called the Gut of Canso or Cansau, which in one place is only a mile broad. It comprises an area of about 2,000,000 acres, exclusive of the surface covered by its lakes and rivers. In shape it is somewhat triangular, its south and south-eastern shore forming one side, its western shore (facing Nova Scotia and Prince Ed-

ward Island) another, and its eastern shore the third; the two last terminating almost in a point at Cape North, which, with Cape Ray, in Newfoundland, commands the only entrance to the Gulf of St. Lawrence, except by the circuitous route of the Straits of Belleisle. The distance between them is about 50 miles.

HISTORY.—The island was discovered by Cabot, but what name he bestowed upon it does not appear. Verazani subsequently visited it, and called it Isle du Cap, which name was, in 1713, changed by the French to Isle Royale. Who gave the island the name of Breton is very uncertain—most probably some Frenchmen of Brittany in remembrance of home. It remained uninhabited until 1714, when a few French fishermen from Nova Scotia and Newfoundland took possession of its shores, selecting

the portions most adapted for drying cod-fish or forming small gardens. In 1715, Louis XIV., who had been long contending with the united powers of Europe, anxious to detach queen Anne from that formidable alliance, offered to surrender part of the French possessions in America, and eventually, by the treaty of Utrecht, the French relinquished all excepting Canada, Cape Breton and Prince Edward (then called St. John's) Island. The position of Cape Breton with regard to the navigation of the St. Lawrence, ensured to the French free communication with Canada, while its fine harbours fitted it for the depôt of their trade with the West Indies, and these considerations, together with its valuable fisheries, induced its speedy colonization. On the S.E. coast of the island were laid the foundations of a town two miles and a-half in circumference, which was called Louisburg in honour of the king of France. The fortifications were not commenced until 1720. A governor and lieutenant-governor were appointed. The Indians of Nova Scotia were solicited to emigrate to Cape Breton, which many of them actually did. The Acadians were also urged to join their countrymen, but as no equivalent was offered to them for the property which they must have necessarily abandoned, they preferred remaining where they were. Meanwhile the French government spared no expense upon the settlement; the outlay on it is stated to have exceed thirty million livres, but this large sum must have been more than repaid by the lucrative fisheries, 1,800,000 quintals of cod-fish, and 3,000,000 quintals of scale-fish, being annually exported. The French were not long established in Cape Breton before they commenced instigating the Indians to hostilities against the English, and so successfully, that a large fishing post at Canso was twice taken by assault and pillaged. The governor of Nova Scotia vainly appealed to the governor of Cape Breton, urging the atrocity of such outrages in a time of peace, and complaining of the encouragement given to the perpetrators by the people of Louisburg, but he received only the unsatisfactory and evasive answer, "that the Indians were an independent people; and that, if there were any French agents among them, they were the neutrals of Nova Scotia, and not subjects of Cape Breton." The Indians, encouraged by this tacit support, became more and more aggressive; and the colonists of Nova Scotia were compelled to have recourse to those of Massachusetts

to assist them in quelling the aggressive spirit.

Matters were in this position when war was declared between France and England, on the 20th March, 1714. The news of this event did not reach Nova Scotia until some time after it had been conveyed to Cape Breton by a fast-sailing vessel, despatched for the purpose, but bearing instructions to the governor not to attempt the conquest of any post in Nova Scotia until further orders, as the noble fortifications of Louisburg were yet unfinished, and known to be insufficiently garrisoned. But the temptation of taking the English by surprise was not to be resisted. Du Quesnel took upon himself the responsibility of disobeying orders, and hastily fitted out a small armament, which gained possession of Canso, and destroyed its defences. The French then proceeded to lay siege to Annapolis, but were twice defeated, notwithstanding the dilapidated state of the fortifications, by the aid of a reinforcement from New England, with whom the Indians of Passamaquoddy, Penobscot, Pigwogat, and some others, took part. Shirley, governor of New England, considering that the best way of checking the active proceedings of the enemy, would be to carry the war into his own territory, proposed to the council to attempt the reduction of Louisburg. How wild and impracticable this scheme must have at first appeared, may be easily conjectured from the following description of the place, for which I am greatly indebted to the graphic account of Mr. Haliburton. Louisburg was two miles and a-half in circumference, and entirely encompassed by a rampart of stone from 30 to 36 feet high, and a ditch 80 feet wide, with the exception of a space of 200 yards near the sea, which was enclosed by a dyke and a line of picquets. The water in this place was shallow, and numerous reefs rendered it inaccessible to shipping, while it received an additional protection from the side fire of the bastions, of which there were six, and eight batteries, containing embrasures for 118 cannon, and 16 mortars, but of which only 15 were mounted. On an island at the entrance of the harbour was planted a battery of 30 cannon, carrying 28-pound shot; and at the bottom of the harbour was the grand or royal battery of 28 cannon, 12-pounders, and two 18-pounders. The entrance to the town was at the west gate over a drawbridge, near which was a circular battery, mounting 16 guns,

of 14-pounds shot. Governor Shirley had conceived the idea of attacking this place soon after the capture of Canso, and the same autumn had solicited the assistance of the British ministry, supposing that it might be surprised, if an attempt was made early in the spring, before the arrival of succours from France; he communicated his plan, without waiting for answers from England, in his dispatches to the other colonies, under an oath of secrecy. Wild and impracticable as this scheme appeared to all prudent men, it was natural to suppose that it would meet with much opposition, and it was accordingly rejected: but, upon reconsideration, it was carried by a majority of a single voice. Circulars were immediately addressed to the colonies, as far south as Pennsylvania, requesting their assistance, and that an embargo might be laid on all their ports. The New England colonies were, however, alone concerned in this expedition. The forces furnished by Massachusetts consisted of upwards of 3,200 men, aided by 500 from Connecticut, and 300 from New Hampshire; the contingent from Rhode Island of 300 did not arrive until too late to be of service. Ten vessels, of which the largest carried only 20 guns, with a few armed sloops from Connecticut and Rhode Island, constituted the whole naval force. The command of the expedition was given to William Pepperal, a gentleman who, from being extensively concerned in trade, but yet more from his unblemished character and affable manners, had great influence both in Massachusetts and New Hampshire, where he was very generally known. This popularity was absolutely necessary to the commander of an army of volunteers—his own countrymen, who were to leave their families and occupations, and engage in a hazardous enterprise, to which they were chiefly incited by patriotism and religious enthusiasm. In waging war against the Papists, many, doubtless, believed themselves to be doing God service, and every means was used by their leaders to strengthen this opinion. The famous George Whitfield (then an itinerant preacher in New England) was presented by Pepperal with the colours, and he returned them with the motto, "nil desperandum—Christo duce." Many of his followers enlisted: one of them, a chaplain, carried a hatchet on his shoulder, for the purpose of demolishing the images in the French churches; and the expedition wore the air of a crusade.

Previous to the departure of the fleet a despatch was sent to Commodore Warren, who was on the West India station, informing him of the contemplated attack on Louisbourg, and soliciting his co-operation, which Warren refused, on the plea that he had received no orders on the subject, the expedition being wholly a provincial affair, undertaken without the assent, and, perhaps, without the knowledge of the home government. This was a severe disappointment to governor Shirley, but being determined to make the attempt at all hazards, he concealed the information from the troops, and on the 4th of April they embarked for Canso, where they arrived in safety; but were detained three weeks, waiting the dissolution of the ice, with which the coast of Cape Breton was environed. After Commodore Warren had returned an answer to Governor Shirley, he received instructions from England, founded on the communications which the latter had made on the subject, by which he was ordered to proceed directly to North America, and concert measures for the benefit of his Majesty's service. Hearing that the fleet had sailed, he steered direct for Canso, and after a short consultation with General Pepperal, he proceeded to cruise before Louisbourg, whither he was soon followed by the fleet and army, which arrived on the 13th of April, in Chaparogue Bay. The sight of the transports gave the first intelligence of the intended attack, for although the English had been detained three weeks at Canso, the French were, until the moment of their arrival, ignorant of their approach. Preparations were immediately made for landing the men, which was effected without much opposition, and the enemy driven into the town. While the troops were disembarking, the French burned all the houses in the neighbourhood of the works, which might serve as a cover to the English, and sunk some vessels in the harbour to obstruct the entrance of the fleet. The first object was to invest the city. Lieutenant-colonel Vaughan conducted the first column through the woods within sight of Louisbourg, and saluted the city with three cheers. At the head of a detachment, composed chiefly of New Hampshire troops, he marched in the night to the N.E. part of the harbour, where he burned the warehouses containing the naval stores, and staved a large quantity of wine and brandy. The smoke of the fire, driven by the wind into the Grand Battery, so terrified the

French that they abandoned it, and spiking their guns retired to the city. The next morning Vaughan took possession of the deserted battery, and having drilled the cannon left by the enemy, which consisted chiefly of 42 pounders, turned them with good effect on the city, within which almost every shot lodged, while several fell on the roof of the citadel. The troops were employed for 14 successive nights in drawing cannon from the landing-place to the camp, through a morass. To effect this they were obliged to construct sledges, as the ground was too soft to admit of the use of wheels; while the men, with straps on their shoulders, and sinking to their knees in mud, performed labour requiring the strength of oxen; and which could only be executed in the night or during a foggy day, the morass being within view of the town and within reach of its guns. On the 7th of May a summons was sent to Duclambon, who refused to surrender, and the siege was pressed on with great vigour and spirit. By the 28th of the month the Provincials had erected five fascine batteries, mounted with 16 pieces of cannon and several mortars, which destroyed the western gate, and made a perceptible impression on the circular battery of the enemy. The fortifications on the island, however, had been so judiciously placed, and the artillery so well served, that they made five unsuccessful attacks upon it, in the last of which they lost 189 men. In the mean time commodore Warren captured the *Vigilant*, a French 74, having a complement of 560 men, and a large quantity of military stores. This prize was of the utmost importance, it added to the naval force of the English, and furnished them with a variety of supplies in which they were deficient. Preparations were making for a general assault, when Duclambon determined to surrender; and accordingly, on the 16th of June, he capitulated. Upon entering the fortress and viewing its strength, and the excellence and variety of its means of defence, the impracticability of carrying it by assault was fully demonstrated. The garrison, which contained 650 veteran troops, and 1,310 militia, with the crew of the *Vigilant*, and the principal inhabitants of the city, in all 1,130, pledged themselves not to bear arms for twelve months against Great Britain or her allies; and being embarked on board 14 cartel ships, were transported to Rochfort. The New England forces lost 101

men, killed by the enemy and other accidental causes, and about 30 from sickness; while the French were supposed to have lost 300 men killed within the walls. During the 49 days the siege lasted, the weather was remarkably fine for the season of the year; but the day after the surrender, it became foul, and rain fell incessantly for ten days: had the change occurred at an earlier period, it must, in all human probability, have proved fatal to a large number of the troops, 1,500 of whom were suffering from dysentery.

Not the least singular circumstance connected with this gallant achievement, was the fact that the plan for the reduction of this skilfully constructed fortress, *was drawn up by a lawyer, and executed by a body of husbandmen and merchants*; animated indeed by patriotic zeal, but wholly unpractised in the art of war. The fortuitous concurrence of events did not, as Mr. Haliburton justly remarks, detract from the merit of the man who planned, or of the people who effected, this remarkable conquest; neither did it lessen the benefit thereby conferred on England. Cape Breton was useful to France; and in many respects Louisburg had realised the hopes of those who projected its establishment. It formed a commodious station for the fisheries, which were gradually becoming a source of naval power as well as wealth to France; and its central position, between the principal fishing stations of the English at Newfoundland and Canso, enabled it to check the trade of both. Louisburg was the French Dunkirk of America, whence privateers were fitted out to infest the coast of the British plantations, and to which prizes were conveyed for safety. In the November preceding the capture of Louisburg, the grand French fleet sailed from thence, consisting of three men-of-war, six West India ships, 31 other ships, nine brigantines, five snows, and two schooners. The French West India fleets found a secure harbour there, and the supplies of fish and lumber were carried with convenience from thence to the sugar colonies; besides which, it must be remembered Cape Breton commanded the entrance into the gulf of St. Lawrence, and consequently the navigation to and from the favourite colony of France. The existing state of Nova Scotia must be noted. An attempt had been made by the French to recover the province; the taking of Cape Breton frustrated the execution of this plan, and gave the English an additional

bridle over this half-revolting and disturbed country. The news of this conquest being transmitted to England, general Pepperal and commodore Warren were preferred to the dignity of Baronets of Great Britain, and congratulatory addresses were presented to the king, upon the success of his majesty's arms. Reinforcements of men, stores, and provisions having arrived at Louisburg, it was determined, in a council of war to maintain the place and repair the breaches. Extreme mortification was felt by the French court at this unexpected event; and an expedition on a very unusual scale was fitted out for the recovery of Cape Breton and the conquest of Nova Scotia, whose unsuccessful and disastrous issue has been already related in the history of the latter place. At the peace of Aix la Chapelle in 1749, Cape Breton was restored to France, greatly to the surprise and grief of the brave colonists, who had so valiantly obtained it, and who, with much reason, considered its position essential to the safety and tranquillity of their own territory. In 1757, colonial rivalry between England and France had reached its highest point; and it was resolved again to attempt the capture of Cape Breton.

The state of Louisburg at this time appears to have been very flourishing. A publication entitled, "Genuine Letters and Memoirs relative to the National, Civil, and Commercial History of the Islands of Cape Breton and St. John, by an impartial Frenchman," of which an English translation was published in London in 1761, gives the following account of the town, immediately before its capture by the English in 1758, by an eye-witness:—"It was built on a neck of land on the S.E. part of the island, and was nearly a league in circumference, with wide and regular streets, a spacious quay; wharfs projecting into the sea, convenient for shipping; fortifications consisting of two bastions and two demi-bastions, three gates; and near the principal fort and citadel, a handsome parade. The stone buildings for the use of the troops and officers of the French government were constructed with materials brought from Europe. The port, about three miles in length, and upwards of a mile in its smallest breadth, with a carrening and wintering ground for ships, was protected by a battery level with the surface of the water, consisting of 36 24 pounders; the harbour was also defended by a *Carahier*, with 12 embrasures, called by the name of *Maarepas*. The royal battery,

at the distance of a mile from the town, which it commanded, and also the bottom of the bay, contained 30 pieces of cannon, viz., twenty-eight 36-pounders, and two 18-pounders. The population of the town, exclusive of the troops, was about 5,000; its administration was confided to a governor and supreme council; there were courts of law and of admiralty; a general hospital for soldiers and sailors, served by brothers of the charitable fraternity, and the 'nuns of Louisburg' superintended the education of young girls." The inhabitants of Louisburg and the other settlers in Cape Breton, of which the principal places were Port Dauphin within the Bras d'Or, St. Ams, Spanish Bay (now Sydney), Port Toulouse (St. Peters), Arichat, Petit de Grat, and Rivice, were chiefly engaged in the fisheries, which must have been carried on to a great extent. Mr. McGregor says, that the trade there employed near 600 vessels, exclusive of boats, and between 27,000 and 28,000 seamen; if this were the case, it is not surprising that the French ministry paid such attention to Cape Breton, and considered the fishery a more valuable source of wealth and power to France than even the mines of Mexico and Peru would have been. The parliament of England also, by the energetic appeals of Mr. Pitt, had been fully awakened to the mistake that had previously been made in relinquishing Louisburg, not only from its importance, which had been greatly undervalued, but because no course of policy which gave to the colonists a just cause of dissatisfaction with the mother country, could be justifiable, however weighty the considerations which dictated it. A large body of men were raised in England in aid of the colonists. Halifax was fixed upon for the rendezvous of the British land and sea forces. Admiral Holborne arrived at Chebucto harbour in the middle of July with a powerful squadron, and 5,000 British troops under the command of Viscount Howe, and was soon after joined by Lord London with a corps of 6,000 men from New York; but the season was considered too far advanced for the enterprise, and it was resolved to defer it to the ensuing spring. Admiral Holborne sailed for Louisburg, with 15 ships of the line, 4 frigates, and a fire-ship, for the purpose of reconnoitring the enemy. On the 20th of August he appeared before the harbour, and saw the French admiral, La Motte, make the signal to unmoor; but being greatly inferior in strength to the

cuemy, he did not choose to risk an engagement, and therefore returned to Halifax. About the middle of September, having received a reinforcement of four ships of the line, he again appeared before Louisbourg, and endeavoured to draw the enemy to a battle. La Motte, however, in his turn, was too prudent to hazard an engagement, the loss of which must have exposed all the French colonies to the attacks of the English. Before the arrival of the reinforcement, the British fleet at Halifax consisted of the following ships:—

Name of Ship.	No. of Men.	No. of Guns.	Name of Ship.	No. of Men.	No. of Guns.
Newark . . .	700	80	Ferrit Sloop . .	120	16
Invincible . .	700	74	Success . . .	150	22
Grafton . . .	590	68	Port Mahon . .	150	22
Terrible . . .	630	74	Nightingale . .	150	22
Northumberland	520	68	Kennington . .	150	20
Captain . . .	580	68	Elphingham . .	150	20
Bedford . . .	480	64	Furnace boom . .	100	16
Orford . . .	520	68	Ditto . . .	100	16
Nassau . . .	480	64	Vulture sloop . .	100	14
Sunderland . .	400	64	Hunter . . .	100	14
Defiance . . .	400	64	Speedwell . . .	90	12
Tilbury . . .	400	64	Hawke . . .	100	12
Kingston . . .	400	60	Gibraltar's Prize	80	12
Windsor . . .	350	54	Jamaica . . .	100	14
Sutherland . .	306	50	Lightning, fire-}	50	—
Winchelsea . .	160	24	ship . . . }		

Total, 10,200 men, 1,350 guns.

The squadron continued cruising before the harbour of Louisburg until the 25th, when they were overtaken by a terrible storm; in twelve hours they were driven within two miles of the breakers, on the coast of Cape Breton, when the wind providentially shifted, and saved the whole squadron from inevitable destruction, except one vessel which was lost on the rocks, and about half of her crew perished. Eleven ships were dismantled, others threw their guns overboard, and the whole returned to England in a shattered condition.

The successes of the French during this campaign left the affairs of the British North American colonies in a gloomy state. The former had obtained full possession of Lakes Champlain and George, and the command of those which connect the waters of the St. Lawrence with the waters of the Mississippi, and the undisturbed possession of all the country west of the Alleghany mountains. But the appointment of Mr. Pitt, during the autumn, to the premiership of the new administration, gave cheering hopes to all parties, both at home and in America. Immediately after taking office he wrote a circular letter to all the colonies, assuring

the colonists of his determination to send out a large force to co-operate with them by sea and by land, against the French, and urging them to raise as large bodies of men as the number of inhabitants in their respective governments would permit. The Provincials displayed, upon this occasion, their usual energy, and were ready to take the field early in May; previously to which Admiral Boscawen arrived at Halifax with a formidable fleet and a powerful army, under general Amherst. The whole armament, consisting of 151 sail, and 14,000 men, took their departure from Nova Scotia on the 28th of May, and on the 2nd of June, 1758, anchored in the Bay of Gabarus, about seven miles to the westward of Louisburg, whose garrison, commanded by Chevalier Dracor, consisted of 2,500 regular troops, 300 militia, formed of the inhabitants, and who, towards the end of the siege, were reinforced by 350 Canadians and Indians. The harbour was secured by six ships of the line and five frigates, (the Prudent, Entrepreneur, each 74; the Capricieux, Celebre, and Bienfaisant, of 64 guns; the Apollo, of 50; the Chevre, Biche, Fidele, Diana, and Echo, frigates,) three of which they sunk across the entrance, in order to render it inaccessible to the English shipping. Six days elapsed before the troops could be disembarked, on account of the heavy surf which broke with prodigious violence on the whole shore: but on the seventh, the agitation of the water having partly subsided, the troops were distributed in three divisions, and ordered to effect a landing. The right and centre, under the command of governor Lawrence and general Whitmore, received instructions to make a show of landing, to distract the attention of the enemy, while the real attempt was made in another quarter by general Wolfe. The French reserved their fire until the boats had nearly reached the shore, when they opened a tremendous discharge of cannon and musketry, which, aided by the surf, overset and sunk many of the boats. The men, encouraged in all their difficulties by the example, spirit, and conduct of their gallant commanders, gained the beach at the Creek of Cormoran, and compelled the enemy to retire to the town. As soon as the stores and artillery were landed, which was not effected without great difficulty, General Wolfe was detached, with 2,000 men, to seize a post occupied by the enemy, at the Light-house Point, from which the ships in the harbour, and fortifications

in the town, might be greatly annoyed. On his approach it was abandoned, and several very strong batteries were erected there. The fire from this place, by the 25th, completely silenced the island battery, which was immediately opposed to it. In the interim, the besieged made several sallies with very little effect, while the approaches to the town were conducted with resolute but cautious vigour. The Bizarre and the Comet escaped the vigilance of the squadron before the commencement of the siege, and the Echo attempted to follow their example, but was captured soon after she left the harbour. On the 21st of July, one of the largest of the French ships blew up with an awful explosion: the fire was communicated to two others, both of which were consumed in a short time to the water's edge. Admiral Boscawen then sent 600 men in boats into the harbour, to make an attempt on two ships of the line, which still remained in the basin—the *Prudent*, a 74-gun ship, and the *Bienfaisant*, of 64 guns. The former having been run aground, was destroyed, and the latter was towed past the batteries in triumph, with the inconsiderable loss of seven men killed, and nine wounded. This gallant exploit placed the English in complete possession of the harbour, and several important breaches being made in the works, the fortress was no longer deemed defensible, and the governor offered to capitulate. The terms proposed by him were refused, and it was required that the garrison should surrender prisoners of war, or sustain an assault by sea and land. The humiliating conditions, at first rejected, were afterwards agreed to; and on the 26th of July, 1758, the Chevalier Druceor signed the articles of capitulation.

Thus, at the expense of about 100 men, killed and wounded, the English obtained possession of the important island of Cape Breton, and the strong town of Louisburg, in which they found 231 pieces of cannon, 18 mortars, and a considerable quantity of stores and ammunition. The merchants and inhabitants were sent to France in English vessels, but the garrison, together with the sea officers, marines, and mariners, amounting in all to 5,637 men, were transmitted to England. The loss of Louisburg was the more severely felt by the French king, from its being attended with the destruction of so many line-of-battle ships and frigates. Despatches with the particulars of this glorious victory were immediately sent

to England by Captain Amherst (brother to the Commander-in-chief), and accompanied by eleven pair of the enemy's colours. These were, by his Majesty's orders, carried in joyful parade, escorted by detachments of horse and foot guards, with kettle drums and trumpets, from the palace of Kensington to St. Paul's Cathedral, where they were deposited as trophies, during a discharge of cannon and other expressions of triumph and exultation. Public rejoicings for the conquest of Louisburg were manifested throughout the British empire; congratulatory addresses from numerous places were sent to the king, and the enthusiastic exultation expressed and excited by the occasion, probably contributed materially to the subsequent acquisition of Canada.

The British government fearing Louisburg might again fall into the hands of the French, dismantled the fortifications, which have ever since remained in ruins; the island was unaccountably neglected by England, and it was not until after the American revolution, when several American loyalists settled in the colony, that it was again brought into notice, separated from the government of Nova Scotia, and erected into a distinct colony. Sydney, its present capital, was then founded. Immigration from the Highlands of Scotland commenced in 1800, and added much to its population, which has been further increased by their countrymen of late years. In 1820, Cape Breton was re-annexed to Nova Scotia, of which it formed a county, with the privilege of sending two members to the House of Assembly, at Halifax. The number of members has been increased to six. A portion of the inhabitants have been seeking for several years the repeal of the Legislative Union with Nova Scotia; but it is a question, the justice or expediency of which it is not necessary here to discuss.

Topography.—Cape Breton is divided into two peninsulas by the great inlet of the sea termed Bras d'Or, or Bras d'Or Lake, which ramifies in the most singular and romantic manner throughout the island, and at one point approaches within a mile of the Atlantic on the opposite coast. The portions of Cape Breton thus separated strikingly contrast with each other, that on the N. being high, bold, and steep, with dangerous coasts, whose rocky and often perpendicular cliffs have a grand but forbidding aspect, which is rarely relieved by harbours; while that on the S. is low, undulating, and intersected by numerous streams, but gradually

rises from the interior shore of the Bras d'Or, until it presents abrupt cliffs towards the ocean. The highest ridges in this division are estimated at from 600 to 800 feet, while the altitude of those in the northern division is much greater. The loftiest point, Cape Enfumé (Smoky Cape), is estimated by Mr. McGregor at 1,800 feet above the level of the sea. The Bras d'Or appears to have been caused by an earthquake, or some other convulsion of nature, which, by separating the land, made way for the irruption of the ocean far beyond its previous boundary. It enters Cape Breton from the Atlantic, between Sydney and St. Ann's Bay, by two channels, N. and S. of an island called Bonladrie. The S. passage, called Little Bras d'Or, is about 23 miles long, and from a quarter to three miles wide, but rendered unnavigable for large vessels by a bar at its mouth. The N. passage, Great Bras d'Or, is 25 miles long, 2 or 3 wide, with a free navigation, and above 60 fathoms soundings. The Bras d'Or itself is the union of these two branches, which form the great lake in the centre of the island, with several fine bays, where the timber ships for England usually load, at a distance of 40 miles from the main ocean. The length of this noble sea-water lake is about 50 miles, its greatest width 20, with a depth varying from 12 to 60 fathoms, everywhere securely navigable, and by reason of its numerous bays and inlets affording the benefit of inland navigation to almost every farm in the country. Several fresh-water lakes exist in both divisions, the largest are Lake Marguerite, in the N. division, which is about 10 miles in circumference; the Grand River and Miray Lakes in the S., the latter, together with its river intersecting the island on its S. E. coast for 30 miles, in the rear of the site of the ancient fortress of Louisburg.

Sydney, the capital of Cape Breton, in lat. $46^{\circ} 18'$, long. $60^{\circ} 31'$, is beautifully situated at the head of a fine bay, on a narrow but somewhat elevated tongue of land, stretching into the extensive inlet which forms its secure and capacious harbour. The town is small but compactly built, and contains the usual number of public buildings, and about 80 houses. An academy was commenced, and £600 were expended upon it, but it remains unfinished, and is apparently going to ruin. The excellent position of Sydney with regard to the fisheries, the rich coal mines on its shore, the

fertile agricultural tracts in its vicinity, together with its noble harbour, led its founders to anticipate its rapidly becoming a place of great importance. Why its present state falls so far short of their expectations, is difficult to conceive; perhaps, chiefly, from its many advantages being too little known by the class most likely to avail themselves of them. A promising settlement, called North Sydney, near the shipping place of the coal mines, has lately sprung up. From Sydney to Louisburg the shore presents frowning headlands, low beaches, bays, rivers, and a few islands. The cliffs along the whole coast, from the Bras d'Or to Cow Bay, are streaked with seams of coal. Cow Bay is separated from Miray Bay by a low barren peninsula. Nearly opposite the latter, a few miles off, lies Scatarie Island, for which vessels bound from England to the North American colonies, usually shape their course. The island is sterile, but forms a good fishing station. A lighthouse recently erected, was greatly needed in its vicinity, to avert the fearful loss of life and property formerly of frequent occurrence. Louisburg Harbour in lat. $45^{\circ} 54'$, long. $59^{\circ} 52'$, has an entrance about a quarter of a mile wide between some small rocky islets, with a narrow passage near the W. point, on which Louisburg stood. The basin within is three miles long by one wide. The town itself is so reduced to ruins that, at first sight, the outlines of the chief buildings are scarcely discernible, and the once formidable batteries blasted by gunpowder, present a striking evidence of past grandeur. The strong and capacious magazines, where immense stores and munitions of war were formerly deposited, are nearly entire; but hidden by the accumulation of earth and turf, they are trodden over by flocks of sheep, who feed in peace over the last resting-place of many a gallant Frenchman and patriotic Briton, while near the harbour, beneath the "clear cold wave," may be seen the vast sunken ships of war, whose very bulk indicates the power enjoyed by the Gallic nation, ere England became mistress of her colonies on the shores of the western world. Desolation now sits with a ghastly smile around the once formidable bastions—all is silent except the loud reverberating ocean, as it rolls its tremendous surges along the rocky beach, or the bleating of the scattered sheep, as, with tinkling bells, they return in the dusky solitude of eve, to their strange folds.

Mr. M'Gregor, who visited the spot, well describes the melancholy contrast formed by the past and present state of Louisburg. The inhabitants along the coast are chiefly Acadian French fishermen, and it is frequented principally by Jersey and Guernsey people. Beyond Louisburg is the deep Bay of Gabarus, on which is a settlement of American loyalists: from thence to St. Esprit the coast is naked and rocky, with red earthy banks, and the land for some distance inland is destitute of timber, and, with few exceptions, barren and unfit for cultivation.

At St. Esprit the country improves: that around Grand River and the lakes connected with it, is said to be excellent. A considerable portion has been settled by emigrants from Scotland. The shore from Grand River to the Gut of Canso is broken and indented with numerous small coves and harbours. The land is good, and occupied by several thriving Acadian settlements; but the principal employment of the inhabitants is fishing.

Arichat, the second shire town in Cape Breton, is situated on the island of Madame, which lies near the south entrance of the Gut of Canso, opposite Cranberry Island, on which there is a light-house, and is divided from Cape Breton by a narrow strait, called Lennox Channel. The town is situated on a safe and commodious harbour, and has long had considerable trade with the Jersey merchants, who export fish from thence to Europe and the West Indies. Its population and commercial importance are rapidly increasing. It sends a representative to the House of Assembly at Halifax. The island is about 16 miles long by five broad, is deeply indented, and has some good soil, especially round the lakes in the interior. The Gut of Canso has been already noticed in the topography of Nova Scotia. It is bordered on the Cape Breton shore, by a dense colony of Highlanders, reaching about four miles inland. The north-west coast of Cape Breton, from the Gut of Canso to Port Hood, a distance of 18 miles, is well situated and thickly inhabited; and, looking from the sea, houses may be observed through openings in the forests, reaching almost to the summits of the hills and mountains. Port Hood is an excellent harbour, fit for the largest-sized vessels. It is the third shire town in the island, and has a considerable export of cattle to Newfoundland. Beyond it the cliff becomes almost precipitous,

particularly near Cape Mabou, an abrupt and lofty headland, where there is a harbour for small vessels. The coast assumes the appearance of a bold mountainous amphitheatre, but the steepers are successfully cultivated by the settlers, who are chiefly Highlanders, mixed with some Irish, and American loyalists. About 50 miles north of Port Hood, the Marguerite, or Salmon, a considerable river, flowing from a large lake which lies between the Gulf Shore and the Bras d'Or, falls into the sea. The land on both sides of this river, for several miles, and along the coast northward for 16 miles, is occupied entirely by Acadians, who, besides employing themselves actively in fishing, cultivate pastoral and agricultural pursuits.

At Chetican, the Jersey merchants have a fishing station, and from thence to Cape North (the extremity of the island) an iron-bound coast presents its frowning front to the mariner. About ten miles from Cape North is the island, or rather rock, called St. Paul, on which two light-houses have been recently erected. On the N.E. end is a fixed light; on the S.W. end a flash light. St. Paul's is about a mile in length, and three quarters of a mile in breadth, and being in a direct line with Cape Ray, in Newfoundland, it fearfully endangered the navigation of the principal entrance to the Gulf of St. Lawrence. The water is deep close to the rocks: thick fogs prevail in its immediate vicinity, and, combined with strong conflicting currents, have wrecked many a gallant vessel. Human bones are to be seen bleaching on the rocks, and massive anchors lie beneath the waters. In one year (1833) here and at Seatar, four ships, four brigs, and two schooners, containing upwards of 600 souls, were lost. Aspey Bay, (on which is a thriving settlement), and several other bays line the coast, down to Cape Enfumé. The shore then bends southward and eastward for twenty miles to St. Anne's Bay, which, after narrowing to a strait very narrow, again expands into a capacious haven eight miles in length, from one to three in breadth, secured by high lands from all winds, and extremely beautiful from its numerous coves and creeks, and the bold, yet fertile country, which surrounds it.

The French at first made their principal station under the name of Port Dauphin, but they afterwards abandoned it in favour of Louisburg; and it was almost deserted until about 30 years ago, when a Scottish

colony planted themselves in it, and are now thriving prosperously. The interior of Cape Breton is yet uncultivated and even imperfectly known, except that portion of it which forms the coasts of the Bras d'Or. This is said to be generally of good quality, and has been settled, almost exclusively by Scottish emigrants; but an active fishery is carried on near its entrance by Irishmen from Newfoundland. Bras d'Or Lake terminates in two bays. One called St. Andrew is 20 miles long, the other called St. George, is about 15 miles in length. That of St. Peter is much smaller, but important from its approaching within 900 yards of the bay on the opposite coast.

The shores of this internal sea are not remarkable for their height. Numerous streams flow into it by circuitous channels forming low marshy islands. A tract on St. Andrew's Bay is still occupied by the Mic Mac Indians.

GEOLOGY.—The extensive coal, iron, and other mines in Cape Breton, seem to require some details under this head, for which I am indebted chiefly to the returns furnished by Judge Haliburton. The island contains from sandstone downwards, the whole of the rocks which constitute the transition and primitive formations.

Primitive and Transition Classes.—Beginning with the high land which extends from the head of the eastern arm of the great lake, nearly to St. Peter's, a great variety of rocks occur: granite, the oldest of the primitive class, occupies a considerable portion. It is generally of a very small grain, and of a grey or red colour, the former being the most prevalent. It passes insensibly into sienite or greenstone, presenting a steep and broken cliff to the edge of the lake, and rising in abrupt precipices from the numerous deep ravines which intersect this part of the island.

The character and appearance of this rock (greenstone) are very diversified. In some places it passes imperceptibly into a claystone porphyry, of a dull green colour; in others, its structure is slaty, and the crystals scarcely discernible.

Clay-slate has only been noticed in one instance, namely, on the south shore of the harbour of Arichat, where it occurs, stratified in vertical beds, traversed by numerous small veins of quartz and calcareous spar. Its superficial extent is very inconsiderable, and it appears to be surrounded with greywacke, which occupies nearly the whole of

the Isle of Madame. There is probably no place of equal extent that can afford such numerous specimens of greywacke as this small island; it may be seen passing from clay slate, through an endless variety of gradations, into old red sandstone. Between great and little Arichat, immense weather-beaten masses of a very coarse kind, protrude above the surface, which is consequently rugged and barren; proceeding hence to Descons, it gradually becomes more compact and granular, and it may be seen in its last stage at that place, where it passes into old red sandstone.

Greywacke and greywacke-slate also occupy an extensive tract, between the Red Islands and St. Peters, stretching out towards the head of the Grand River in an easterly direction. Associated with this formation, there are several beds of transition limestone, both in the Isle of Madame and opposite the Red Islands; at the latter place a deposit of shell limestone, apparently unstratified, may be seen almost in immediate contact with several vertical beds of a reddish-brown limestone, which is translucent on the edges.

Secondary Class.—Proceeding geologically upwards, the next formation is the *old red sandstone*, which reposes upon the greywacke, and is intimately connected with it. From the great entrance of the Bras d'Or Lake, it ranges in a south-eastern direction across the island of Bouladrie, passing to the southward of the town of Sydney, and underlying the carboniferous limestone, which forms the south-west boundary of the Sydney coal field. The remark made by Conybeare on the agricultural character of this rock, is strikingly verified in the preceding localities; for instance, in Lenoix Passage, where the sandstone beds exclusively prevail, the soil is sandy and barren, affording support only for mosses, ferns, and brushwood; but where the sandstone alternates with argillaceous beds, the soil is, on the contrary, fertile and productive, as the luxuriant groves of hardwood on the island of Bouladrie bear ample evidence.

The carboniferous limestone which rests upon the old red sandstone, is a rock of the greatest importance, for it determines the boundaries and extent of the coal fields which it surrounds, constituting the basin or trough in which the coal veins and strata associated with them, are deposited.

The Eastern Coal District of Cape Breton commences on the northern head of Miram Bay on the east coast and continues

to the great entrance of the Bras d'Or Lake. It is in length 35 miles, and averages five miles in width, and deducting the harbours, bays, and numerous indentations in the coast, comprises 120 square miles of land containing workable veins of coal. The carboniferous limestone which forms the base of the Sydney coal field, may be traced from Cape Dauphin, crossing the Island of Bouladrie in a continuous line to the town of Sydney, the course being about S.S.E., and dipping to the N.E. If a line be drawn from Seatari Isle to Sydney, and thence to Cape Dauphin, it will form the S.W. boundary of the Sydney coal field; the general dip of the veins being towards the N.E., we cannot therefore determine their boundary in that direction. Judging from the comparative inclination of the highest and lowest strata on the western shore of Spanish River, where there is a cliff three miles in length, crossing the beds in the direction of their dip, we should suppose that the lower veins crop out in the sea 10 or 12 miles from the shore. The high cliffs which form an extended line of mineral precipices along the whole coast, exhibit very satisfactory and interesting sections of the strata, from the shale and grit beds overlying the limestone to the highest veins of coal. In these cliffs, 14 veins of bituminous coal of excellent quality, none of which are under three feet in thickness, have been observed. Richard Smith, Esq., detailed a singular fact connected with these coal mines. In his evidence before Parliament some years ago respecting accidents in mines, he said:—

“When we first struck the coal at the depth of about 180 feet, it was highly charged with water; the water flew out in all directions with considerable violence; it produced a kind of mineral fermentation immediately. The outburst of the coal crossed the large river which passed near the coal-pit. We were not exactly aware of the precise outcrop, on account of a strong clay paste eight or ten yards thick. It is rather difficult to find the outburst of coal, when clay paste is thickly spread over a country. At the river the water boiled similarly to that of a steam engine boiler, with the same kind of rapidity; so that on putting flame to it on a calm day, it would spread over the river, like what is commonly termed setting the Thames on fire; it often reminded me of the saying. It is very common for the females, the workmen's wives and daughters, to go down to the river with the washing they have to perform for their families. After digging a hole in the side of the river, about ten or twelve inches deep, they would fill it with pebble stones, and then put a candle to it; by this means they had plenty of boiling water without further trouble, or the expense of fuel. It would burn for weeks and months unless out out. I mention this to show how highly charged

the coal was with gas. What I am now going to describe, may be worth a little attention. There was no extraordinary boiling of water, or rising of gas, before we cut the coal at the bottom of the pit, more than is usually discernible in a common pond of stagnant water, when a long stick is forced into the mud. As soon as the coal was struck at the depth of 180 feet, it appeared to throw the whole mine into a state of regular mineral fermentation. The gas roared as the miner struck the coal with his pick; it would often go off like the report of a pistol, and at times I have seen it burst pieces of coal off the solid wall, so that it could not be a very lightly charged mine under such circumstances. The noise which the gas and water made in issuing from the coal was like a hundred thousand snakes hissing at each other.”

The total thickness of the strata constituting the coal measures on the W. side of the harbour of Linga amounts to 1,740 feet; that of the millstone grits and shale, probably 1,200. The thickness of the carboniferous limestone has not yet been ascertained.

Western Coal District.—This includes the coal field on the River Inhabitants, and those of Port Hood and Mabou.

New Red Sandstone.—The last, but by no means the least important of the regular consolidated formations which occur in this island, is the new red sandstone, which is undoubtedly the most extensive deposit we have to notice. It commences beyond the outcrop of the old red sandstone, and is seen reposing in horizontal beds almost immediately upon the basest edges of the highly inclined strata of that rock in the great entrance to the lakes, about 10 miles S.W. of Cape Dauphin; covering an extensive area, it would be impossible to describe its different characters; in general, it is of a deep red colour, and very coarse description, containing immense beds of conglomerate.

In a commercial point of view, the new red sandstone ranks next in importance to the coal fields of the island, for it contains immense deposits of gypsum, of a very superior quality for agricultural purposes, and is becoming an article of considerable traffic with the United States, where its value is appreciated. It constitutes a cliff several miles in extent, and in some places 30 feet in height. The gypsum in the lower part of the cliff is sufficiently compact for architectural purposes, and that near the surface appears well adapted for potters' moulds, stucco, flooring, &c. It is very conveniently situated for exportation, as vessels of great burthen may approach close to the cliff. It occurs abundantly in various other places.

The numerous salt springs which have

their source in the new red sandstone, will be found well worth the attention of capitalists. Placed so near the veins of coal, essential in the manufacture of salt, and situated in the very heart of the best fisheries of North America, they promise fair to become, at a future day, a productive source of wealth to the proprietors, and of incalculable benefit to the fisheries.

St. Paul's Island appears to be quite unconnected in a geological sense with the strata constituting the northern part of Cape Breton, and would seem to have been originally formed by a submarine volcano. The basalt found on it is of a black colour, with a greenish shade, and apparently contains a large proportion of oxide of iron. This island rises like an immense cone from the bottom of the ocean, the sloping sides becoming nearly vertical at the surface of the water, and forming an abrupt cliff. The depth of water is very great close to the shore, and, at only three miles distance from the northern extremity, a line of 140 fathoms did not reach the bottom. Connected with the geology of the country are its metallic minerals; copper, iron, and lead are found in great variety, the two former in abundance.

The *Soil* is light, on a sandstone rock, thickly covered with huge boulders of granite, in many places alluvial, presenting extensive tracts of land fit for the cultivation of any crops. On the N.W. coast, in the valleys and along the banks of the small rivers a deep rich soil prevails. There is a good deal of wet, mossy bog land, which, as the country becomes cleared and peopled, will yield excellent crops.

Climate.—Cape Breton in some respects resembles the neighbouring peninsula, with perhaps more moisture from its insular position. The fog, which is swept along the shores of Nova Scotia by the S.W. wind, and along the S.E. coast of Cape Breton, as far as Scentari, is then blown off to sea: it never extends far inland, being dissipated by the reflected heat. The climate is exceedingly healthy, and the water excellent—two things of paramount value to the settler. The seasons may be thus indicated:—in June the blossoms of the indigenous shrubs appear; apple trees are in full bloom in the beginning of July, when strawberries are in perfection; hay is made in July and August; in the latter months raspberries and oats ripen, as do also currants and gooseberries, wheat in September, and apples and plums

hang on the trees until the approach of winter in October and November.

Animal Kingdom.—All the usual domestic animals, besides the moose and cariboo; the former are now comparatively scarce, owing to an indiscriminate massacre which took place for the sake of the hides, soon after the English settled in the country. So great was the destruction of these fine animals that hundreds of carcasses were left scattered along the shore from St. Ann's to Cape North, creating a stench so powerful as to be perceptible to vessels a considerable distance at sea.

Remains of huge animals are found, which it would appear formerly ranged in the vicinity of the Bras d'Or. Enormous bones, resembling thigh bones, six feet in length, are reported to have been seen lying at the bottom of the lake. In the bed of the Wagamatcook, shortly after the settlement on that river, an extraordinary skull was discovered. One of the teeth which was taken to Sydney, resembled, in general appearance, the molars of the human jaw: its greatest measure was about eight inches; but whether that length had been transversely or longitudinally situated in the jaw, could not be determined by those who had not seen the skull from which it had been taken. The thickness from the root to the crown of the tooth was four inches, and the width across the crown about the same. There were ten processes upon the crown; five on either side. I give this statement on the authority of Mr. Haliburton; but a Nova Scotia newspaper of the year 1837, has the following more extraordinary statement:—"The tooth of an extinct species of animal has been recently found at Cape Breton, measuring 17 inches in length, eight inches round the thickest end, and weighing two pounds fifteen ounces; though partially decayed, a large portion is in an excellent state of preservation."

The Indians have a story, that a huge animal once raised its head out of the water of the Middle Barrasoi of Aspey Bay, near Cape North, and so terrified them, that it was long before any would venture thither again.

POPULATION.—The number of mouths is estimated at 50,000, of whom the greater part are emigrants from the Highlands of Scotland and their descendants. They are chiefly employed in agriculture. The next most numerous race are the original European colonists, or French Acadians; an

industrious people, employed in the fisheries, and in building small vessels. The remaining colonists consist of English and Irish settlers, disbanded soldiers, and American loyalists, who were located here after the American war. The Mic Mac tribe, whose ancestors once tenanted the whole island, are now reduced to about 300, many of whom have embraced the Roman Catholic religion, and are becoming civilized to some extent: they have lands assigned to them amounting to 10,000 acres.

Products.—Coal, fish, gypsum, and timber. The rivers, creeks, and bays teem with every variety of the finny tribe. The extent of coal and gypsum has been already stated: timber of excellent quality grows in immense forests: live cattle, butter, cheese, potatoes, oats, &c., are becoming increased articles of export to Newfoundland.

The coal trade is increasing, and forms a lucrative traffic for Cape Breton as well as for Nova Scotia. The following is a return of the quantity of coal sold at the mines of the "General Mining Association" in Nova Scotia and Cape Breton, now open and in course of working:—

Sold in the Years	1845.	1846.	1847.	1848.
	Ch.	Ch.	Ch.	Ch.
For the British Provinces	44,412	45,165	48,710	54,762
" United States . .	59,968	57,570	91,477	76,017
Total . .	104,410	102,735	140,187	130,779

It will be seen from the above, that the United States consume a larger quantity of coal from Nova Scotia and Cape Breton than the British American provinces. By the exertions of T. B. Foord, Esq., the able London secretary of the Mining Association, markets for their coal have been opened in all the seaports of the United States. The Pictou coal, being free from sulphur, is most used for manufacturing purposes, such as the smelting of iron and for gas; the Cape Breton coal for domestic use and for steam-vessels: both are equally applicable for the latter purpose, though more so when burned together. The Liverpool and Halifax steamers burn the Cape Breton coal on their voyages from America to England. In proportion to the progress of manufactures and population in the United States, the demand for coal from the British American provinces will increase, as Nova Scotia and Cape Breton are the only districts in North America in which this valuable mineral has been found of superior quality. It has been

erroneously supposed that the "General Mining Association" have a monopoly of all the coal and iron in Nova Scotia and Cape Breton. By the lease granted to the Duke of York, for 60 years, from 1825, of all the mines and minerals in Nova Scotia and Cape Breton, an exception was made or such lands in the province as had been previously granted to individuals, over which the Crown had reserved no mineral rights. Wherever, therefore, coal or iron can be found in Cape Breton or Nova Scotia thus situated, the proprietors, or their lessees, may work the mines; and, indeed, a company is now being formed in the province for this purpose, termed the "Londonderry Coal and Iron Company." The "General Mining Association," as sub-lessees of the late Duke of York, at a fixed rent of £3,000 per annum, have expended a million and-a-half of money in the province, from which great benefit must have accrued to the colony. The Royalty is two shillings per chaldron on every chaldron shipped above 26,000 chaldrons Newcastle measure.

The Sydney and Bridgeport coal mines are both in the island of Cape Breton. The Sydney mines are situated on the north-west entrance of Sydney harbour, a harbour unsurpassed by any in British America, and accessible in all winds. This coal field is similar in quality to that of Newcastle. It is well suited for all the purposes of good fuel, especially for domestic use. It is highly bituminous, ignites readily, gives a strong lasting heat, and leaves but little ash. A railroad has been made from the pits to a point of the harbour, where vessels of any burthen can load with ease, and are well sheltered from the prevailing winds. The establishment at the Sydney mines consists of about 150 persons, who occupy 50 houses, including the buildings required for the works.

The Bridgeport mines are situated on the southern shore of Indian Bay, one mile and three quarters from the harbour where vessels load, and which is perfectly secure for shipping in the most boisterous weather. The southern head of Indian Bay, which is called Cape Table, bears by compass from Flint Island N.W. by W., distance eight miles and-a-half, and the northern head of the Bay bears from the light-house on Flat Point at the entrance of Sydney harbour S.E., distance four miles. Vessels may run safely into four fathoms water between the northern and southern heads.

The coal from these mines is of excellent

quality, of the same description as the Sydney, and little inferior to it. A railroad has been laid from the pits to the shipping place, and along which the coal is carried and deposited at once in the holds of the vessels.

This establishment employs about 100 persons: the houses and buildings exceed 20 in number, exclusive of wharfs, saw-pits, &c. The island is valuable in an agricultural as well as in a mineral point of view: In 1839, '40, and '41, the quantity of land sold was 13,840 acres, at an average price of 2s. 4d. per acre.

The indifference too long manifested con-

cerning Cape Breton is gradually passing away, because its importance and capabilities are becoming better understood. It is to be hoped that the improvement now taking place in the social condition of the people may steadily progress, and that the blessings of religion and education may be, ere long, extensively diffused among them. They well deserve the hearty co-operation and goodwill of Britain, for their attachment towards her, and the readiness they have evinced to defend their island against the enemies of the vast empire of which they form a small but valuable *and valued* part.

CHAPTER V.

SABLE ISLAND, THE MAGDALEN ISLANDS, AND BRION ISLAND.

SABLE ISLAND, famous for the disastrous attempt at colonization, made on its inhospitable shores by the Marquis de la Roche in 1598, has since acquired a still more painful notoriety from having been the scene and occasion of very many shipwrecks, from its lying in the direct track of vessels to and from Europe. It is about 85 miles distant from Cape Canso, and is included in the province of Nova Scotia. Its length is about 30 miles, its breadth varies greatly from its irregular outline, which is somewhat in the form of a bow. The W. end is in N. lat. 43° 56' 12", W. long. 60° 71' 15"; the E. end in N. lat. 43° 59' 5", W. long. 59° 12". A considerable sum of money is annually appropriated for the maintenance of an establishment on the island, consisting of a superintendent and assistants, with abundant supplies of every article likely to be required in case of shipwreck. This establishment was formed in 1804, and kept up at the expense of the province until 1827; but in the latter year the British government undertook to furnish a sum equal to that voted by the province, and the establishment has consequently been greatly enlarged, and its usefulness much increased. Its necessity is sufficiently attested by the melancholy fact, that 40 vessels were wrecked there in a few years, and in a single winter 200 people are stated to have perished on its coasts. The surface of the island (according to the state-

ments furnished to Judge Haliburton) is undulating; and the colour is also very similar to that of the sea, from which it is not easily distinguishable. Throughout its whole extent there is not a single tree or shrub, and the only productions to be found upon it are a strong coarse grass, commonly known by the name of bent grass, or sea matweed, whortleberry, and cranberry bushes. The grass is indigenous, and grows near the shore, or in low places; and the cranberry bushes are confined to the deep hollows, which the violence of the wind has formed by scooping out the sand, and driving it into the sea. With these exceptions, the soil, if such it can be called, consists of a naked sand, which is easily acted upon by the tempest, and drifts like snow. In some places it has formed conical hills, one of which is 100 feet high; and notwithstanding its exposure, and the looseness of its texture, continues to increase in bulk. After a gale of wind, human skeletons are sometimes exposed to view, and timber and pieces of wrecks are disinterred, which have been buried for years.

Those who have not personally witnessed the effect of a storm upon this place, can form no adequate idea of its horrors. The reverberating roar of the sea, when it strikes this attenuated line of sand, on a front of 30 miles, is truly appalling, and the vibration of the island under its mighty pressure

seems to indicate that it will separate eventually, and be borne away into the ocean. The whole of the S. end is covered with timber, which has either been drifted thither by the current or torn from wrecks, and driven on shore by the violence of the sea. At each extremity there is an extensive and dangerous bar. The N.W. bar is 16 miles long, and from a mile to a mile and-a-half wide, on the whole of which the sea breaks in bad weather. That on the N.E., which is of the same width as the other, extends 28 miles, and in a storm forms one continued line of breakers. The currents are variable, one especially but little known to seamen, is stated to have been a chief cause of the numerous disasters. There seems reason to believe, that the gulf stream at $42^{\circ} 30'$, running E.N.E. occasions the waters of the St. Lawrence, running S.S.W., to glide to the westward. The strength of the current has never been noted, and three-fourths of the vessels lost are supposed to have thought themselves to the eastward of the island, when, in fact, they were in the longitude of it.

The island is said to be decreasing in size. The spot where the first superintendent dwelt is now more than three miles in the sea, and two fathoms of water break upon it. Although it must occasionally vary, according to the violence of storms and the action of the waters, yet it is thought that the effect of these is perceptible rather on the bars and shoals, than on the island itself, which is diminished by the wind faster than it is supplied by the ocean.

During the summer months, the S.W. wind is so prevalent as to be almost a trade wind, and is attended with the inconvenience to the party residing on it, and the danger to strangers, of being always accompanied by fog. In winter the rigour of the climate is abated by the sea breeze; and snow, though it sometimes falls in heavy showers, is almost immediately blown off into the water. Although the island is a mere strip of sand, it contains a pond 18 miles long, and nearly a mile wide, denominated Lake Wallace, between which and the sea, on the south side, there is a narrow ridge or sea wall, of about 200 yards. This lake, when the island was first discovered, appears to have had the same form as at present; but very many years afterwards a breach was made into it by the sea on the north side, and an inlet formed, which converted it into a very commodious harbour for small coasters. A tem-

pest, similar to that which opened it, closed it again, and blockaded two small American shallops that had sought shelter within it. About the centre of the north side of the lake is the house of the superintendent, which is one story in height, and 80 feet in length by 20 in breadth, near it stand the stores and a large barn. On an adjoining hill is a flag staff, made of the spritsail-yard of the French frigate *l'Africane*, wrecked in the year 1822, from which signals are made to vessels in distress. At each end of the lake is a hut, furnished with provisions, apparatus for striking fire, and directions for finding the house of the superintendent. Two small kitchen gardens are attached to the house, and one place has been found where cabages can be reared. Rye, oats, and Indian corn, have been frequently sown, but they have never arrived at maturity. The stock of cattle consists of a few horses, some cows and oxen, hogs and poultry. But though the attempt to raise sheep has been often made with every possible care, it has hitherto failed, the climate or the food not being congenial to them. Besides the barn adjoining the house, there is another at the east end of the lake, which is filled with hay made of the beach grass. The family of the superintendent are supplied with firewood by the drift timber found on the south end of the island, which is hauled to the lake and there formed into a raft, and towed to the dwelling-house, for which purpose they are furnished with two excellent whale boats. The water of the island is brackish and of yellowish colour, but is everywhere attainable in the hollows by digging from three to five feet. From an early period there appears to have been a herd of wild cattle upon it. The Portuguese were the first who made this humane provision for the unfortunate, by landing some calves, which increased in a few years to such an extent, as to induce unprincipled men to hunt them for the sake of their hides and tallow, and in some instances to remove them alive. The disreputable nature of the employment, and the danger attending a protracted visit on the island, were such, that they were not exterminated for more than a century. After this it was again stocked, but the cattle shared the same fate as those which had been previously placed there. At a subsequent period, a French clergyman, at Boston, named Mr. le Mercier, who called himself an Englishman by naturalization, sent cattle thither, and proposed to remove there

himself. Among the records of the province, there is an application from him to lieutenant-governor Armstrong, at Annapolis, for a grant of the island, but as he declined to accept it on the terms proposed, of paying a quit rent to the king, it was finally withheld. A proclamation, however, was issued by the governor, forbidding people to kill these animals, and they continued there for many years, but at what time they were destroyed and succeeded by the horses now upon it, is not known, nor is it ascertained whether the latter are the descendants of some sent there by him, or of others which have escaped from wrecks. Since the formation of the establishment, and the protection afforded them by it, they have greatly increased in number. They are small, but strong and active, and endure, with surprising hardihood, the inclemency of the weather in winter, without any other shelter than that afforded by the hillocks of sand. The south end of the island is their general resort, on account of the quantity of grass on its shores, and its remoteness from the house of the superintendent. They have increased beyond their means of subsistence, and although many are killed every year to supply fresh provisions for the crews of wrecks, who are detained there until an opportunity offers for conveying them to Nova Scotia, yet several of the aged and infirm are generally found dead every spring. They are exceedingly wild, and it is no easy matter to approach within gun-shot of them. As it is desirable that no ineffectual efforts should be made to shoot them, and that they should not be unnecessarily maimed or wounded, great care is taken by the marksman to ascertain himself in a suitable place, until an animal approaches within a convenient distance, when one shot usually suffices to kill him. The young male horses are selected for slaughter, and are easily distinguished from the aged by their superior condition, and by the size of the mane, which in the old horses is of extreme length, reaching nearly to their knees. The meat is said to be tender and by no means unpalatable. The island is also well stocked with English rabbits, which make an agreeable variety in the food of the residents. The nature of the soil is so peculiarly adapted to the habits of these animals, that they have multiplied astonishingly, and are prevented from becoming too numerous only by a similar increase of rats, the progeny of those that have escaped from wrecks. Great numbers of the latter perish

in the course of the winter, and during the rainy weather of the spring and autumn. Until within the last 15 years, there was a small herd of wild hogs, that became exceedingly fierce. The climate, however, which had always restricted their increase, finally overcame them altogether, for the whole perished during an unusually severe winter. Since that time it has not been thought advisable to renew this species of stock, which, considering the nature of the food that shipwrecks must sometimes have unfortunately furnished them, must always have been objects of horror and disgust. During the early part of the summer, gulls, ducks, divers, and other wild fowl, lay an immense quantity of eggs on the southern point, and a party from the house frequently sail up the lake and fill their boat with them. At the approach of winter these birds migrate to the continent.

Soon after the settlement of the New England colonies, this place became a favourite resort of fishermen for the purpose of killing morse and seal. The former are nearly exterminated, but the latter still afford, during the season, a favourite employment to the people of the superintendent. They are of the species "*Phoca Ursina*;" the male is sometimes eight feet long, and 800 pounds in weight; but the female is much smaller. The colour of the former is nearly black, and of the latter a dark speckled brown. Their hair is long and rough, and on the neck of the male is upright, and a little longer than the rest. The fore legs are about two feet long, and the hinder ones twenty-two inches, the feet being divided by five toes, separated by a large web, and spreading to the extent of twelve inches. They are prodigiously strong, swimming at the rate of seven miles an hour, and are very tenacious of life, often surviving the most severe wounds. When on shore they live in families, each male being attended by several females, whom he guards with great jealousy. The young ones, at twenty days old, are nearly white, and their flesh bears a resemblance to that of sucking pigs. The males, when old, are deserted by the females. They then live apart from the rest, and become exceedingly fierce and quarrelsome. Their contests are often violent and sanguinary, and they inflict wounds on each other, not unlike the cuts of a sabre. At the termination of one of these battles, they throw themselves into the sea to wash away the blood. Although by no means so numerous as they were in for-

mer years, they still resort to the island in great numbers. They arrive on the north-east bar about the middle of January, for the purpose of whelping, and remain there for the space of a month; when the puppies are about twenty-five days old, preparations are made for attacking them. Each person is armed with a club five or six feet in length, made of oak or ash, the butt being transfixed with a piece of steel, one end of which is shaped like a spike, and the other formed into a blade. As the seals seldom advance beyond the summit of the bar, so as to avail themselves of its declivity to facilitate their descent into the sea, the assailants approach with great caution and silence, and when within about 200 yards, rush in between them and the water, and commence the attack. Each man selects the largest as the object of his particular pursuit, and strikes him, on the back part of the head, several blows with the steel spike. He then applies the blade, in the same manner, to the wound thus inflicted, and repeats the blows till the animal is brought to the ground. The strength and fierceness of this species of seal is so great, that this attempt is not unaccompanied with danger, and when they turn on their pursuer, they often ward off the blow with much dexterity, and have been known to seize the club in their mouth and escape. An ordinary hand-spike would be altogether unavailing, and a musket equally so. When driven off this shoal, they land again on the north-west bar, where they are pursued in the same manner, after which they disappear altogether until the ensuing year. The chief value of the seal consists in the oil. When the animal is killed, the fat is peeled off with knives. The skin of a full-grown seal is worth about five shillings, and that of a whelp about one shilling and sixpence. The proceeds of the sale, both of the skins and the oil, go towards the funds of the establishment.

THE MAGDALEN ISLANDS are situated 18 leagues N.W. of Cape Breton, the same distance northward of Prince Edward Isle; 36 leagues from the nearest point of Newfoundland; 75 leagues from the French settlements of Miguelon and St. Pierre, and 180 leagues eastward of Quebec. With four exceptions they form an almost continuous chain of land, about 42 miles long, in a

nearly N.E. and S.W. direction. Amherst Island, the most southerly of the chain, is nearly oval in form, having about five and-a-half and three and-a-half miles for its axis, with an isolated hill about 250 feet above the level of the sea. Its harbour is the best in the chain, with a narrow but straight entrance over a soft ooze bar, fit for vessels drawing 11 to 12 feet water. Numerous spots of sand almost connect Amherst with Grindstone Island, whose diameter is about five miles. Cape Abright, the next in succession, is about nine miles long and three broad. Then follows Entry and Coffin Islands. The population consists of about 200 families, the greater part of whom are French Acadians—fishermen. Lieutenant Baddely, who examined these islands, thinks them of igneous origin;—first, by reason of the form of the hills of which they are composed;—secondly, on account of their porphyritic, amygdaloidal, vesicular, or lava-like structure;—thirdly, the geological appearances of the sandstone, clays, &c., shown in their displacement, in their redness, and even in their friability. In some places the soil is a rich black mould, as at St. Vincent's, and other volcanic islands in the West Indies.

BIRD ISLAND AND THE BIRD ISLANDS, north of the Magdalen islands, have been recently visited by the distinguished ornithologist, Audobon, who thus describes the "Great Gannet Rock," which derives its name from the numerous birds which breed there. Mr. Audobon says:—

"For several days I had observed numerous flocks proceeding northward, and marked their mode of flight while thus travelling.—At length, about ten o'clock, we discerned at a distance a white speck, which our pilot assured us was the celebrated rock of our wishes. After a while I could distinctly see its top from the deck, and thought that it was still covered with snow several feet deep. As we approached it, I imagined that the atmosphere around was filled with flakes, but on my turning to the pilot, who smiled at my simplicity, I was assured that nothing was in sight but the Gannets and their island home. I rubbed my eyes, took up my glass, and saw that the strange dimness of the air was caused by the innumerable birds, whose white bodies and black-tipped pinions produced a blended tint of light-grey. When we had advanced to within half a mile, this magnificent veil of floating Gannets was easily seen, now shooting upwards, as if intent on reaching the sky, then descending as if to join the feathered masses below, and again diverging toward either side and sweeping over the surface of the ocean."

BOOK III.—NEW BRUNSWICK.

CHAPTER I.

GEOGRAPHICAL POSITION, BOUNDARIES, AREA, AND HISTORY.

POSITION AND AREA.—New Brunswick forms an eastern section of the American continent, and is situated between $45^{\circ} 5'$ and $48^{\circ} 20'$ N. lat., and between $63^{\circ} 50'$ and 68° W. long. It is bounded on the N. by Chaleurs Bay, in the Gulf of St. Lawrence (which separates it from the district of Gaspé), and by the Ristigouche River, which, in its whole course, from its source to its estuary in Chaleurs Bay, divides the province from the county of Bonaventure in Lower or Eastern Canada;* on the S. and S.E. by the Bays of Fundy, Chignecto, and the narrow peninsula which prevents Nova Scotia from being entirely insulated; the county of Westmoreland in New Brunswick being divided from that of Cumberland in Nova Scotia only by a boundary line drawn from Fort Cumberland to Bay Vert in Northumberland Straits (an arm of the Gulf of St. Lawrence); on the E. by Northumberland Straits, which separates it from Prince Edward Island and the Gulf of St. Lawrence; and on the W. by the territories of the United States. The boundary line is so often a matter of discussion, that it may be acceptable to give verbatim the first article of the treaty of 1812 (commonly known as the Ashburton Treaty) by which it was finally arranged.

"It is hereby agreed and declared, that the line of boundary shall be as follows:—Beginning at the monument at the source of the River St. Croix, as designated and agreed to by the commissioners under the Fifth Article of the Treaty of 1794, between the governments of Great Britain and the United States; thence north, following the exploring line run and marked by the Surveyors of the two Governments in the years 1817 and 1818, under the Fifth Article of the Treaty of Ghent, to its intersection with the river St. John, and to the middle of the channel thereof; thence up the middle of the main channel of the said river St. John to the mouth of the river

St. Francis; thence up the middle of the channel of the said river St. Francis, and of the lakes through which it flows, to the outlet of the Lake Pohenagamoos; thence south-westerly, in a straight line, to a point on the N.W. branch of the river St. John, which point shall be ten miles distant from the main branch of the St. John, in a straight line and in the nearest direction; but if the said point shall be found to be less than seven miles from the nearest point of the summit or crest of the highlands that divide those rivers which empty themselves into the river St. Lawrence from those which fall into the river St. John, then the said point shall be made to recede down the said N.W. branch of the river St. John, to a point seven miles in a straight line from the said summit or crest; thence in a straight line, in a course about S. eight degrees W., to a point where the parallel of latitude of $46^{\circ} 25' N.$ intersects the S.W. branch of the St. John's; thence southerly by the said branch, to the source thereof in the highlands at the Metjarnette Portage; thence down along the said highlands which divide the waters which empty themselves into the river St. Lawrence, from those which fall into the Atlantic Ocean, to the head of Hall's Stream; thence down the middle of said stream, till the line thus run intersects the old line of boundary surveyed and marked by Valentine and Collins previously to the year 1774 as the 45th degree of N. latitude, and which has been known and understood to be the line of actual division between the States of New York and Vermont on one side, and the British Province of Canada on the other; and from said point of intersection W. along the said dividing line, as heretofore known and understood, to the Iroquois, or St. Lawrence River."

The province is in form an irregular square, contains about 26,000 square miles, and has a sea coast 500 miles in length.

HISTORY.—The early history of New Brunswick is comprehended in that of Nova Scotia. Under the dominion of France it formed a portion of Acadia or New France, and its first settlements (of which the records are in general vague and unsatisfactory) appear to have been almost entirely confined to military posts on the St. John, and those at Chignecto and Bay Verte. Dr. Gesner,

* The boundary between New Brunswick and Canada is imperfectly defined. From the western extremity of Chaleur Bay, the river Ristigouche was adopted instead of "a line along the high lands which divide the rivers that empty themselves into

the river St. Lawrence from those which fall into the sea, to a point in the 45th degree of N. latitude." But the Ristigouche River divides into two streams, which have different sources. [See Map of New Brunswick on Map of Eastern Canada.]

in his recent and valuable "History of New Brunswick," from which I have obtained much interesting detail, says, that the first attempt at the colonization of the northern part of New Brunswick was made in 1639. In 1672 a number of French families emigrated to the river Miramichi, and soon after several small settlements were formed in different places, and a fortified town called Petite Rochelle, was commenced near the mouth of the Ristigouche. At Beaubair's Point and on the island of that name (so called in honour of the governor or superintendent of the colony, Monsieur Beaubair), considerable settlements were formed, and some traces of cultivation still remain. The settlers employed themselves chiefly in hunting and fishing, and had an extensive export trade, which continued prosperously until 1757, when it was greatly interrupted by English cruisers on the coast. In the same year their crops failed, and the succeeding winter they were reduced to a state of starvation. To the horrors of famine were added those of a pestilence, supposed to have been introduced by a vessel wrecked near the mouth of the Baie des Vents River, the remains of which are still to be seen. Two transports were despatched from France with supplies, for the relief of these unhappy people, but the vessels were captured by the British fleet, and 800 of the inhabitants perished. From the wearing away of the banks of the river at Beaubair's Point, where great numbers of them were buried, many graves have been opened; and in 1812 the bones of the early French emigrants were seen protruding from the soil, where, at present, a highway descends to the ferry crossing the N.W. branch of the river. Most of the habitants who survived fled to Chaleur Bay, St. John's Island, and Memuncook on the Peticodiac. Only a few colonists remained at French Fort Cove, Canadian Point, and Nequak, which were the principal rallying points for the savages.

After the conquest of Quebec, a vessel, having on board the remains of General Wolfe, was driven, by stress of weather, into Miramichi river. The captain sent a boat and six men on shore to procure water. The boat landed at Henderson's Cove: the men were suddenly surrounded by a party of armed Indians and soldiers from the fort, and murdered upon the spot. The captain of the vessel, on being informed by the pilot of this barbarous massacre, retaliated with almost equal brutality. After silencing

the battery at the Cove, he destroyed the settlement at Canadian Point, and, it is said, he there put to death the miserable survivors of the famine and the pestilence. In proceeding to sea he landed at Nequak, and set fire to a large church, from which circumstance the settlement has been ever since called Burnt Church.

In 1760 a French fleet was sent to attempt the recovery of Canada, which being pursued by the British squadron, took refuge in the Ristigouche, at the town of Petite Rochelle, where there were two batteries. Captain Byron, the British commander, having with difficulty worked his ships up the river, forced the enemy to an engagement, and succeeded in capturing and destroying the whole fleet. He then demolished the town, and razed the fortifications to the ground. The remains of two French vessels may still be seen at low-water near Mission Point, where several pieces of cannon are partially buried in the sand. At the site of Petite Rochelle, muskets, swords, bombshells, with a variety of other warlike instruments, have been found; and among the ruins of the town, china, silver forks and spoons, and other articles of luxury, have been discovered, evidencing the advanced state of civilization of its former inhabitants.

About 1761, settlers from Great Britain and the adjoining colonies began to flow into the province. In 1761, the first British settler, a Mr. Davidson, emigrated from the north of Scotland to Miramichi, and in the following year obtained from the British government a grant of 100,000 acres, situated on the south-west branch of the Miramichi. He was afterwards joined by a Mr. Cort, from Aberdeen, and they soon established a valuable trade. The fishery annually yielded them from 1,100 to 1,800 tierces of salmon, and they lived upon good terms with the Indians until the commencement of the American revolution, when the savages declared themselves in favour of the revolutionists, plundered their stores, and decreed the death of every individual belonging to the infant settlement. The arrival of the Viper sloop-of-war prevented the contemplated massacre. Thirty of the Indians attempted to capture the vessel, part of whom perished in the attempt, and the remainder were taken prisoners and sent to Halifax. On a subsequent occasion the colony was saved from destruction by the exertions of a Roman Catholic priest, named Cassanette. The first English settlement on

the St. John was formed by some families from Massachusetts, who, having obtained from government the grant of a township on that river, immediately established themselves in the district now known as the County of Sunbury. At different times during the war they were joined by American loyalists and refugees. The first commission of the peace for this settlement is dated 11th of August, 1766, and the Courts of Common Pleas were held in Sunbury until 1783, when Fredericton was made the seat of government. The population at this period amounted to 800 souls.

In 1783 several thousands of disbanded troops were removed from New England to New Brunswick, and a number of Acadians who had established themselves at Fredericton were removed to Madawaska to make room for them. Even here the Acadians have not escaped the vicissitudes of fortune; for according to the boundary line laid down in 1842, one part of Madawaska district is assigned to Great Britain, and the other to the United States, and the divisional line has consequently placed the same people under two different governments.

In 1784, New Brunswick was separated from Nova Scotia, and made a distinct province. General Carleton was appointed governor, and by his judicious—his paternal administration—for nearly 20 years, he raised the country from almost the state of a wilderness to comparative civilization. In the year 1809, the duty on Baltic timber was advanced to £2 11s. 8d. per load, while that from the colonies was left free. The exportation from New Brunswick thereby received a great stimulus, and rapidly increased until 1825, when, from speculative over-trading, it experienced a severe check, from which, however, it recovered, and became as thriving as before. It has recently been again depressed.

In 1826, the east coast of Miramichi was visited by an awful conflagration, of which the following description, by an eye-witness (Mr. Cooney), may probably be acceptable to those who, never having been out of Europe, have probably but little idea of the fury and rapidity with which fires rage after a continuation of hot seasons in North America and New Holland, when the dry underwood and fallen leaves, in addition to the resinous quality of the timber, afford combustible materials in the greatest abundance:—

"The summer of 1825 was unusually warm in both hemispheres, particularly in America, where its effects

were fatally visible, in the prevalence of epidemical disorders. During July and August, extensive fires raged in different parts of Nova Scotia, especially in the eastern division of the Peninsula. The protracted drought of the summer, acting upon the aridity of the forests, had rendered them more than naturally combustible; and this facilitating both the dispersion and the progress of the fires that appeared in the early part of the season, produced an unusual warmth. On the 6th October, the fire was evidently approaching Newcastle; at different intervals fitful blazes and flashes were observed to issue from different parts of the woods, particularly up the N.W., at the rear of Newcastle, in the vicinity of Douglastown and Moorfields, and along the banks of the Bartibog. Many persons heard the crackling of falling trees and shriveled branches, while a hoarse rumbling noise, not dissimilar to the roaring of distant thunder, and divided by pauses, like the intermittent discharges of artillery, was distinct and audible. On the 7th of October the heat increased to such a degree, and became so very oppressive, that many complained of its enervating effects. About 12 o'clock a pale sickly mist, lightly tinged with purple, emerged from the forest, and settled over it.

"This cloud soon retreated before a large dark one, which occupying its place, wrapt the firmament in a pall of vapour, and the heat became tormentingly sultry. There was not a breath of air—an irresistible lassitude seized the people; and a stupefying dullness seemed to pervade every place but the woods, which trembled, and rustled, and shook with an incessant and thrilling noise of explosions rapidly following each other, and mingling their reports with a discordant variety of loud and boisterous sounds. At this time the whole country appeared to be encircled by a fiery zone, which gradually contracting its circle by the devastation it made, seemed as if it would not converge into a point while anything remained to be destroyed. A little after four o'clock an immense pillar of smoke rose in a vertical direction, at some distance N.W. of Newcastle, and the sky was absolutely blackened by this huge cloud; but a light northerly breeze springing up, it gradually distended, and then dissipated into a variety of shapeless mists. About an hour after, or probably at half-past five, innumerable large spires of smoke, issuing from different parts of the woods, and illuminated by flames, that seemed to pierce them, mounted to the sky.

"The river, tortured into violence by the hurricane, foamed with rage, and flung its boiling spray upon the land. The thunder pealed along the vault of heaven: the lightning appeared to rend the firmament. For a moment all was still, a deep and awful silence reigned over everything. All nature appeared to be hushed, when suddenly a lengthened and sullen roar came booming through the forest, driving a thousand massive and devouring flames before it. Then Newcastle, and Douglastown, and the whole northern side of the river, extending from Bartibog to the Nashuawk, a distance of more than 100 miles in length, became enveloped in an immense sheet of flame, that spread over nearly 6,000 square miles! That the stranger may form a faint idea of desolation and misery which no pen can describe, he must picture to himself a large and rapid river, thickly settled for 100 miles or more, with four thriving towns, two on each side of it, and then reflect that these towns and settlements were all composed of wooden houses, stores, stables, and barns; that these

barns and stables were filled with crops—and that the arrival of the fall importations had stocked the warehouses and stores with spirits, powder, and a variety of combustible articles, as well as with the necessary supplies for the approaching winter. He must then remember that the cultivated, or settled part of the river, was but a long narrow stripe, about a quarter of a mile wide, lying between the river and almost interminable forests, stretching along the very edge of its precincts, and all round it. Let him then animate the picture by scattering countless tribes of wild animals; hundreds of domestic ones; and even thousands of men through the interior. Having done all this he will have before him some idea of the extent, features, and general circumstances of the country, which, in the course of a few hours, was suddenly enveloped in fire. A more ghastly, or a more revolting picture of human misery, cannot be well imagined. Nothing broke upon the ear but the accents of distress; the eye saw nothing but ruin, and desolation, and death. Newcastle, yesterday a flourishing town, containing nearly 1,000 inhabitants, was now a heap of smoking ruins; and Douglastown was reduced to the same miserable condition. Of the 260 houses and storehouses that composed the former but 12 remained; and of the 70 that composed the latter but 6 were left. The confusion on board of 150 large vessels then lying in the Miramichi, and exposed to imminent danger, was terrible—some burnt to the water's edge—others burning—and the remainder occasionally on fire. Dispersed groups of half-famished, half-naked, and houseless creatures, all more or less injured in their persons; many lamenting the loss of some property, or children, or relations and friends, were wandering through the country. Of the human bodies some were seen with their bowels protruding, others with the flesh all consumed, and the blackened skeletons smoking; some with headless trunks and severed extremities—others reduced to ashes—many bloated and swollen by suffocation, and lying in the distorted position of their last agonizing convulsions. Brief and violent was

their passage from life to death: rude and melancholy their sepulchre—unknelled, uncollined, and unknown. Upwards of 500 human beings perished. Thousands of wild beasts, too, had been destroyed in the woods, and from their putrescent carcases issued streams of effluvia and stench. Domestic animals of all kinds lay dead and dying in different parts of the country; myriads of salmon, trout, bass, and other fish, which poisoned by the alkali formed by the ashes precipitated into the river, now lay dead, or floundering and gasping on the scorched shores and beaches; and the countless variety of wild fowl and reptiles shared a similar fate. Such was the awful conflagration at Miramichi, which elicited the prompt benevolence of very many philanthropists in the Old and New World, who subscribed £10,000 for the relief of the survivors, whose property, to the extent of nearly a quarter of a million, was destroyed."

Administrators of the Government of New Brunswick.

T. Carleton, Governor-in-Chief	1784
G. G. Ludlow, President	1785
E. Winslow	1803
Lieutenant-Colonel G. Johnston	1808
General M. Hunter	1803
General W. Balfour	1811
General M. Hunter	—
General G. S. Smyth	1812
General Sir T. Saumarez	1813
General G. S. Smyth	1814
Lieutenant-Colonel H. W. Hailes	1816
General G. S. Smyth, Lieutenant-Governor	1817
Ward Chipman, President	1822
J. M. Bliss	1821
General Sir H. Douglas, Lieutenant-Governor	—
W. Black, President	1829
General Sir A. Campbell, Lieutenant-Governor	1831
General Sir J. Harvey	1837
Colonel Sir W. E. Colebrook	1841
Sir E. W. Head, Bart.	1848

CHAPTER II.

TOPOGRAPHY, DESCRIPTION OF THE COUNTIES AND CHIEF CITIES, GEOLOGY, MINERALOGY, SOIL, TIMBER TREES, AND CLIMATE.

PHYSICAL ASPECT.—New Brunswick presents much variety of scenery, and is marked by several distinguishing features. The greater part of its surface undulates boldly, forming several continuous ridges of high land, as, for instance, that which extends from Maine, in the United States, to Mars Hill, and from thence stretches across the country in a N.E. direction, and sending off a branch to the Ristigouche, nearly reaches Chaleurs Bay. The elevations in this and other ranges are seldom of any considerable height,

yet their precipitous acclivities, sharply defined outline, and deep ravines, give them an Alpine character, while the rich valleys, sheltered plains, and noble forests, through which rivers and lakes wind in every direction, offer many a cheering prospect to the eye of the intending settler, by the promise they offer of speedy and abundant return to diligent labour. The greater part of New Brunswick is still an uncultivated, though beautiful wilderness, containing abundance of fine timber and extensive prairies; of its

general aspect it is therefore difficult to form, much more to convey, any satisfactory idea, except by describing the leading features of the counties, which are in general marked by natural, rather than artificial limits.

The chief river, the St. John, which rises in the territory of the United States, near the source of the Connecticut, and entering New Brunswick in or near 47° N. lat., flows in a semicircular form through the province until it disembogues in the Bay of Fundy in $45^{\circ} 20'$ N. lat., and 66° W. long. For 85 miles, up to Fredericton, it is navigable for vessels of 50 tons; thence barks of 20 tons can ascend to the Grand Falls, which are 125 miles higher, above them it is only useful for boats. The Miramichi is second only to the St. John in extent and importance, and with its numerous tributaries drains a vast tract of country. Three of the N.W. branches spring from a chain of lakes in the Upper Tobique country, and descending with rapidity traverse the forests of the S.W. for nearly 200 miles, then uniting the Miramichi becomes navigable for large vessels, and, at length, falls into the fine bay of the same name in 47° N. lat., and $61^{\circ} 53'$ W. long. The Ristigouche is also a fine stream, and will be noticed when examining the district which it waters. New Brunswick now contains 13 counties, and as the population increases others will doubtless be created; according to Dr. Gesner, there is still sufficient space for a county in the vicinity of the Grand Falls, one on the Tobique River, and one or two in the district of the Ristigouche. The names of the counties are, Gloucester, Northumberland, Kent, Westmoreland, St. John's, Charlotte, King's, Queen's, Sunbury, York, Carlton, Ristigouche, and Albert. Gloucester, Northumberland, and Kent, originally formed one county, called Northumberland, which extended over an area of 8,000 square miles, and possessed a river frontier from the source of the Ristigouche to Dalhousie Harbour, at the head of Chaleurs Bay, and from thence a seaboard along the S. side of the bay to the gulf coast of Shediac Island. Other counties have also been re-divided.

St. John's County extends along the northern shore of the Bay of Fundy for nearly 90 miles, its average breadth being about 10 miles. It contains the parishes of Portland, Carlton, Lancaster, St. Martin's, and Simonds. The coast line is almost entirely composed of barren rocks, especially in the

large parish of St. Martin, but owing to the vicinity of the city of St. John, the land in this county has been very carefully cultivated, and in the valleys and less elevated parts, good crops of oats, potatoes, and turnips are raised, and considerable advance has been made in the culture of wheat. Some excellent samples of turnips were exhibited in 1846, and the produce of the fields where they were grown, was stated to be at the rate of 800 bushels per acre.

The city of St. John in $45^{\circ} 20'$ N. lat., $66^{\circ} 3'$ W. long., is built on a rocky peninsula projecting into the harbour at the mouth of the noble river of the same name, and from its favourable position is the emporium of the inland trade of a great part of New Brunswick. Much labour has been employed in levelling the streets, but several of them are still inconveniently, and in winter even dangerously steep. That division of the city nearest the entrance of the harbour, is called Lower Cove. The principal wharfs, docks, and warehouses are situated farther to the north. The whole shore is lined with timber ponds, booms, and ship-yards, which receive the numerous rafts floated down the river. It is an incorporated city, divided into six wards, governed by a mayor, recorder, aldermen, sheriff of the county, coroner, common clerk, &c. St. John's has risen into opulence with as much rapidity as any city in North America. But little more than 60 years ago, the site of St. John was a rocky headland, covered with cedar thickets. By the patient industry of American loyalists, the foundation of its present prosperity was established. The streets are regularly, and on the whole well built. The numerous public buildings of stone, brick, and wood are many of them remarkable for their excellent structure. In 1837, a destructive fire consumed 115 houses and stores. The loss was estimated at £250,000. Several severe fires have occurred since, and whole streets, including the north and south market wharfs, and a new market-house, have been laid in ruins. The extreme point of the peninsula is occupied by two batteries, military stores, and barracks. Steam-boats ply night and day between St. John's and Fredericton.

Carlton, a town on the W. side of the harbour, is included in the city, and contains several good streets. The harbour of St. John is safe, commodious, and open at all seasons of the year. At its mouth lies Partridge Island, on which is a battery, light-house, and hospital for the reception of the

sick emigrants and sailors on their entering the quarantine station. Between the island and the mainland, is a long narrow bar, dry at low water, and on the bar is fixed a beacon crowned by an excellent light. The fishery here is very productive. The population of the city of St. John in 1810, was 20,716, but the suburb of Portland would add at least 5,000 to that number.

Portland continues to increase, and Mr. Perley, in his official returns, dated January, 1817, estimates the city of St. John with the suburb of Portland, at 30,000, and the rest of the county at 8,000 souls, in all 38,000 souls—about equal to one-fifth of the whole population of the province. The river St. John, before its entrance into the harbour, passes through a fissure in the solid rock, which exhibits every appearance of having been occasioned by some convulsion of nature. The volume of water collected in a course of many hundred miles being compelled to pass through a channel only 150 yards wide, rushes downwards with extreme velocity, forming the falls, which are simply a sluice on a grand scale. Dr. Gesner says, "that the ordinary tides of the harbour rise below the falls 26 feet; above the falls, their common elevation is only about 18 inches; therefore, the height of the fall outwards is 24 feet 6 inches. But the entrance of the river at the gorge is too narrow to admit the sea on the flood-tide to flow in freely, and therefore there is the singular occurrence of a fall inwards at high water, and a fall outwards at low water. The time for vessels to pass through the narrow opening or fall, is fixed at three quarters of an hour at each ebb and flood, or when the sea and river are both at the same level." Musquash Harbour, to the S.W. of St. John's, is a safe and beautiful haven, two miles long, and half a mile wide.

Charlotte County occupies the S.W. angle of New Brunswick, and is separated from the United States by the River St. Croix. It contains ten parishes; viz., St. Andrew's, St. Stephen's, St. David's, St. George's, St. Patrick's, St. James's, Pennfield, Grand Manan, West Isles, and Campo Bello. It is a hilly country, with ridges of granite rocks along its northern boundary; but it possesses much good land, especially in the valleys of the numerous streams by which it is intersected. The principal parish, St. Andrew's, contains the shire town of the same name, which is conveniently situated for commerce, on a narrow slip of low land at the N.E.

extremity of Passamaquoddy Bay. St. Stephen's, at the head of the navigation of the St. Croix, is a thriving town. The parish of St. George is intersected by the Magaguadavic, and has an excellent harbour called L'Etang. Pennfield parish is chiefly settled by Quakers. Grand Manan Island is situated 12 miles S. of the main land of the United States. It is 25 miles long, with a mean breadth of five, having a number of islets on its N.E. side. A great part of the island is cultivated: the herring fishery is extensively prosecuted on its shores; and, in consequence of its important situation, commanding the entrance to the Bay of Fundy, is extremely valuable, being so far fortified by nature, that a little assistance from art would render it invulnerable. The perpendicular cliffs are, in some places, 600 feet high. Campo Bello Island is, in length, from N. to S., eight miles, with an average breadth of two. It is, for the most part, in a state of cultivation. The harbour De Lute, on the west side, near the north extremity, is large and safe, with a spacious entrance.

Deer Island is twelve miles long and three miles broad. It is partially cultivated, and surrounded by a multitude of small islets. The spacious and beautiful inlet of Passamaquoddy Bay, which separates the sea-coast of New Brunswick from the United States territory of Maine, is studded with numerous islets, some of which are richly wooded. This noble bay has the advantage of being free from ice to a greater extent inland than any other harbour north of New York. The fisheries in this county, in the vicinity of West Isles, Campo Bello, and Grand Manan, are of much importance.

The *County of Westmoreland*, until 1815, included the district south and west of the river Peticodiac, now erected into the county of Albert. It is eminently an agricultural and grazing county, containing extensive dyked marshes, a few small lakes, and occasional peat bogs and swamps. The coast is deeply indented by Shepody Bay and Cumberland Basin; the former receives the Peticodiac, a fine stream, navigable for vessels of 100 tons burden 33 miles. It was called by the French, Petit Conde, (Little Elbow,) from its making, 26 miles from its mouth, a sudden turn at a right angle called the Bend, where the tide flows in and ebbs off in six hours. The east side of the Peticodiac, for 12 miles above its entrance, is occupied by Mic Mac Indians. Dorchester,

the shire town, is well built and thickly populated. A pretty village in its vicinity is called after a Monsieur Believaux, who died at the advanced age of 110 years. Sackville parish borders upon Cumberland Basin. The great Tantamarre marsh is situated on both sides of the river of that name, and is one of the largest collections of fertile sea alluvium in British America, being twelve miles long, and four miles wide. The overflowing of the sea is prevented by dykes thrown up on the margin of the river and across the creeks. Westmoreland extends from the boundary between Nova Scotia and New Brunswick, and across the peninsula. A swelling ridge of land, called Point de Bute, separates a small stream called the Aulac, from the Missiguash, and forms the boundary line between the provinces. Fort Bean Sejour, now called Fort Cumberland, was erected on the south-western termination of the ridge, where it commands the entrance of both streams. On it stands a church and chapel, surrounded by fine farms and rich marshes. Bay Verte (so called from the salt-water grass that grows in the mud and floats on the surface,) is a narrow and shallow estuary, especially at its inner extremity. Shediac parish has a good harbour, near the mouth of which are two beautiful islands. The turn of the tide in the Bay of Fundy exhibits that peculiar phenomenon termed the Bore, which takes place on a much grander scale at the mouths of the Ganges, Indus, and Mississippi. The waters seem to accumulate without advancing, until the waves attain a considerable perpendicular height, and then dash forward with extreme velocity and irresistible force, the loud roar striking terror into the animals on the shore, who fly towards the highlands trembling with alarm.

Albert County.—From its recent organization this county requires but a brief notice. It contains 433,560 acres, of which 233,700 are granted and located. Its population is estimated at 5,660. Its productions are similar to those of Westmoreland. The parish of Hopewell stretches along the shore of Chignecto Bay. Shepody Mountain (as it is called) is the termination of a ridge of high land, extending along the boundary of the St. John from the S.W. The small river of that name ends in a lake, between which and the sea an opening has been made, to allow the tide to flow in and cover a large boggy tract with alluvium.

King's County has a mountainous aspect, being thickly interspersed by hills, steep declivities, and narrow ravines walled in by rocks. The western portion, with the exception of the flourishing parish of Greenwich, is almost in a wilderness state. Kingston, the shire town, is situated on a peninsula, between the Kenebecasis Bay (a branch of the St. John) and Belle Isle Bay, and communicates with the main-land, only in a northern direction, where it adjoins the parish of Sussex; improvements are making rapid progress, particularly in the latter named place, which, from a forlorn and dreary desert, has been rapidly transformed into a lovely and luxuriant valley, smiling with abundant harvests and rich pastures, whilst roads, bridges, and public works attest the enterprising spirit of its inhabitants. The Kenebecasis river is navigable 20 miles for vessels of any burthen, 30 miles for vessels drawing seven feet water, and 30 more for flat-bottomed boats. It has four small branches, the Mill Stream, Smith's Creek, Salmon River, and Trout Creek, which afford facilities for transporting timber, and sites for flour and saw-mills. The parish of Westfield has numerous lakes and streams, and abounds with fine timber. The Nerepis, after passing for 12 miles through marsh and intervalle land, falls into the St. John, which then bends abruptly to the N.E., and runs in a nearly direct line for 16 miles. This straight section of the river is called the Long Reach, and at its head are valuable quarries of excellent granite, which are now being largely worked.

Queen's County lies on both sides of the St. John, and is intersected by two important tributaries of that river, namely, the Washademoak, the lower part of which may be called a lake from the stillness of its waters, and the Salmon, which empties itself into Grand Lake. This lake is a beautiful sheet of water, 30 miles long, and from 3 to 9 broad, connected with the St. John by a narrow and deep channel called the Gemsee (so often mentioned in the early histories of the province), and with French and Magnapit Lakes by channels opened through the alluvium forming the intervalles. All these lakes and channels are navigable. Gagetown (the shire town) is pleasantly situated at the mouth of the Gemsee, and is the shipping place for the produce of the district. Long Musquash and other islands in this part of the St. John, are planted after the subsidence of the spring freshets, and produce fine crops

The parish of Wickham has increased greatly within the last few years. The western portion of the country is almost wholly uncultivated. The parish of Brunswick contains a few settlers at the north-eastern extremity, but almost its entire surface is shaded by a trackless forest; yet this part, and, indeed, the whole county, has great agricultural capabilities, besides possessing coal fields of considerable extent, and abundance of fine timber, of which it has furnished to the port of St. John large supplies for many years.

Sunbury County lies between Queen's and York, and like them crosses the St. John. The parishes of Mangerville and Sheffield are considered the most productive tracts in the province, in consequence of their being annually overflowed. It is impossible to conceive a scene more luxuriant than they exhibit in the season of harvest; for upwards of twenty miles below Fredericton there is scarcely an unimproved spot on the banks of the St. John, through which run a chain of islets as fertile as the mainland. Burton and Lincoln parishes are situated on highlands, with valuable slips of intervale, the whole of which are in a high state of cultivation. At Mangerville the first British settlement in New Brunswick was planted, and another very early one was formed at the mouth of the Oromucto, where there is now a large village, formerly a resort of the Indians, whose graves are sometimes exposed by the operations of the plough. Ship-building, to some extent, is carried on here. On the north and south branches of the Oromucto are many thriving settlements.

York County occupies the higher banks of the St. John for about 50 miles, and contains Fredericton, the capital of New Brunswick, which is situated in the parish of the same name, in 45° 57' N. lat., 66° 15' W. long.; 85 miles distant from the sea coast at St. John's. It was formerly called St. Ann's, and was made the seat of government by Sir Guy Carleton, in 1785. The town stands on a plain fronting the river (here three quarters of a mile wide), which, curving boldly, encloses it on two sides; on the S. a range of hills two miles long and half a mile wide surround it; and from the opposite coast, the Nashwaak rolls its broad, and sometimes rapid, stream into the St. John, which to this point is navigable from the sea upwards for vessels of 50 tons burthen.

Fredericton is laid out in blocks of a quarter of an acre square, of which there are

18: the streets are disposed rectangularly, some of them being a mile long, and, for the most part, continuously built on with wooden houses. The public edifices are the Province Hall (where the provincial assembly and courts of justice assemble), the court-house, barracks, government-house, library, church, chapels, and kirk, and many other structures. The population of the parish of Fredericton in 1810, was 4,002 souls; but the city of Fredericton alone, in 1817, was supposed, by Mr. Perley, to contain 6,000 souls.

Above Fredericton, are the parishes of Kingsclear on the S. and St. Mary on the N., both settled by disbanded soldiers. Queensbury parish was laid out originally for the Queen's Rangers, and has prospered well; but Prince William, settled by the King's American Dragoons, has not been equally thriving, the land being much less favourable. An average crop of oats in this county, of the best quality, is said to be 30 bushels to the acre; but in 1816, there were fields in and near Fredericton, which yielded 60 bushels to the acre. The land (comprising 550,000 acres), purchased from the crown by the New Brunswick and Nova Scotia Land Company, is chiefly situated between the St. John and the S.W. branch of the Miramichi. The company have spent large sums in making roads, clearing land, and building houses, mills, and bridges. The greater part of their tract is of excellent quality, much of it consisting of upland intervale, and they offer liberal encouragement to emigrants. The town of Stanley, formed by this company, is, according to Dr. Gesner, yearly increasing in population and prosperity. It is situated on the borders of the Nashwaak, 35 miles above its confluence with the St. John. Douglas parish on the N. side of the St. John, is intersected by the Keswick River.

Carlton County includes all the upper part of the St. John, so far as it flows through British territory. A portion of it containing, by estimate, 2,700,000 acres, has been claimed by the province of Canada, since the settlement of the disputed boundary with the United States. The first parishes, after leaving York, are Woodstock on the W., and Northampton on the E., both granted to provincial regiments disbanded in 1815. The lands of these settlements are well cultivated and exceedingly productive. At the north-western extremity of Woodstock, the Meduxieag (a broad, rapid stream, with almost innumerable branches)

empties itself into the St. John; both banks of which, from Woodstock to the mouth of the Tobique, 50 miles above, are more or less in progress of cultivation.

Wakefield parish contains, and is surrounded by flourishing farms. The thriving village of the same name, 12 miles from Woodstock, is very picturesquely situated. The extensive parish of Kent comprises the remaining and least settled part of the course of the St. John. The Presqu'île is a considerable stream; but from its numerous rapids, scarcely navigable, even for canoes. One of its branches bends along the base of Mars Hill, and receives the brooks descending from the side of the mountain. Mars Hill is about five miles and-a-half west of the river St. John, and one hundred from Fredericton; and has a degree of interest attached to it, from the circumstance of its being the point fixed on by the British commissioners as the commencement of the range of highlands forming the boundary of the United States. The mountain is about three miles in length, with a base of upwards of four miles, an elevation of two thousand feet above the sea, and one thousand two hundred above the source of the St. Croix; near the summit it is almost perpendicular. As it is the highest point in its vicinity, the prospect commands a great extent of territory: immediately beneath stretch the vast forests, whose undulations, clothed with the funereal green of the fir, and the brilliant verdure of the birch, resemble stupendous waves, the more elevated spots rising above the others, like towers on the ocean. The mountain chain, of which Mars Hill is only an insulated point, pursues its course to the northward, leaving within its range Bear Mountain and Moose Mountain. Blue Mountain, near the Tobique, is the next eminence of any considerable altitude in this portion of the Alleghany chain. In this county, the St. John receives its largest tributaries, the Tobique from the E., the Ristook or Aroostook from the W. About eighty miles from its mouth, the Tobique divides into four branches. The extreme sources of this river wind "among naked mountains far in the interior, where the native wild animals find a retreat, and the beaver lives in safety within his dwelling." Formerly there were large forests of the valuable white and red pine in the vicinity of this stream, but most of them have been destroyed by fires. Spruce, cedar, larch, are still abundant, and there are also groves

of beech, birch, and maple. The mouth of the Tobique is occupied by an encampment of Melicete Indians. The Aroostook falls into the St. John two miles above the Tobique, and, with its branches and contiguous lakes, will afford a water communication equal to four hundred miles in extent. Fifteen miles above the Tobique, Salmon River (so named from its having formerly abounded in that fish), flows into the St. John. About five miles above are the Grand Falls. The St. John, in the midst of its stately course, is suddenly compressed into a narrow gorge, three quarters of a mile long, flanked by steep and overhanging cliffs, from 100 to 150 feet high, at the termination of which, a ridge of rocks changes the hitherto unbroken volume into one vast body of turbulent foam, which thunders over a perpendicular precipice, 58 feet in height, into a deep vortex among huge black rocks, whence the river rolls out impetuously through a channel still more confined in width than the previous one, forming a succession of cataracts for about a half a mile, the picturesque effect being increased by crags of every form, which, in several places, shroud the water from sight. A sudden turn in the river, at the Grand Falls, forms a little pinnacle, on which a pretty village has been built, which is interesting from its romantic position. The isthmus of the falls is one of the oldest military posts in the province; and since the settlement of the boundary question, the government has commenced clearing land and fortifying this important part of the frontier. Twelve miles above the fall, Grand River, enters the main stream, which, a few miles higher, receives the Madawaska, on whose banks is an Acadian settlement of that name. The soil is fertile, and the population is steadily increasing. It is stated by Dr. Gesner, to include both sides of the St. John, from the Grand Falls to the mouth of the St. Francis, upwards of 10 miles; and he adds, that there are a few groups of farms and clearings beyond these limits. Having briefly surveyed the counties bordering on the Bay of Fundy, upon the St. John and the United States frontier, we proceed to examine those on the coast of the Gulf of St. Lawrence and Chaleurs Bay.

The New Brunswick shore, along the gulf of St. Lawrence, is low and sandy, covered with trees of a stunted growth, and skirted with extensive marshes, large deep mosses and long sand beaches, formed by the conflicting currents of the gulf, and the different

ivers that pierce the shore. The coast line of the magnificent Chaleurs Bay, which is 85 miles long, and from 16 to 30 broad, commencing in $47^{\circ} 58'$ N. lat., $61^{\circ} 30'$ W. long., is similar to the Gulf shore, but in several places there are perpendicular cliffs of some height.

Kent County, so named in honour of his royal highness the Duke of Kent, extends from Shediac harbour to the south extremity of Miramichi Bay, having about 50 miles of coast, with several small but good harbours. The settlements are chiefly confined to the Gulf shore and the banks of the rivers along the tide-way. The Acadian-French constitute a considerable proportion of the population, and have formed themselves into numerous compact villages. The *Richibucto*, on which is built the shire town of Liverpool, is about 65 miles long, and rolls into the Gulf of St. Lawrence, through a safe and capacious harbour, 43 miles S. of Point Escuminac. In its greatest width at the entrance it is not more than a mile, and often does not exceed 200 feet. The tide flows 22 miles from its mouth, affording a sufficiency of water for large vessels; canoes navigate to its source, whence there is a small portage to the Salmon River, whose source is unknown, but which flows for 80 miles to the S.W., and falls into Salmon Bay, at the head of the Grand Lake in Queen's County. The banks of the Richibucto, for nine miles from the sea, are low and sandy, but further inland the country assumes an easy and gradual elevation, indicating by a better growth of timber a more fertile soil. The Chebuctouche rises also in Kent County, is 36 miles long, falls into the gulf 20 miles to the south of Richibucto, and is navigable for schooners 12 miles from its mouth, to which extent the tide reaches. This river is remarkable for its abundance of large and excellent oysters. The county is divided into nine parishes, two of them are quite uninhabited, and the others but scantily populated; yet much of the land is of good quality, and well adapted for the cultivation of grain. The whole surface is exceedingly level, and, on an average, its elevation does not exceed 20 feet above the sea. The coast affords valuable fisheries. Herrung and mackerel are sometimes so abundant, as to be employed in manuring the soil. In the parish of Dundas is the fine harbour of Cockayne; in that of Wellington is Buctouche harbour.

Northumberland County, although those of Kent and Gloucester have been taken from it, is still the largest in the province. The principal river is the Miramichi, which, 40 years ago, was only known to a few fur traders, and is now of considerable importance, owing to the timber trade and fisheries carried on by its hardy and enterprising inhabitants. The Miramichi falls into the Gulf of St. Lawrence in $47^{\circ} 10'$ N. lat., $64^{\circ} 40'$ W. long., forming at its estuary a capacious bay, enclosing several islands. Chatham, the county town, is situate on the south bank of the Miramichi. On the opposite banks are the towns of Newcastle and Douglas, which have, phoenix-like, risen from their ashes, they and other villages having been entirely destroyed in the terrific conflagration of 1825, (described in p. 222.) Two miles below Douglas town, on the opposite side, is the prosperous village of Nelson, in the parish of that name. Seven miles above Chatham the Miramichi divides into two branches, one running S.W., and the other N.W. The tide extends about 15 miles up the S.W. branch, beyond the point of junction, and the banks are settled nearly 45 miles from the tide-way, up to which point large-sized vessels can load and unload: from hence to the river Tank, (15 miles,) small craft, lighters, and barges arrive from Chatham and Newcastle, and proceed through the New Brunswick Company's territory, for 40 miles further; the S.W. branch of the Miramichi containing more water, from the junction of the Tank when it again ascends to the northward, than the Thames from London upwards. The N.W. arm of the Miramichi is more rapid and rocky, and consequently less navigable than the S.W. branch: there is, however, little obstruction to canoe navigation for about 80 miles, to where it meets the tide, 17 miles above the harbour. The source of the S.W. branch is in the county of York, near the Tobique, 12 miles from the St. John: the commencement of the N.W. branch is not known, the country being there little explored. The former is about 189 miles long before reaching the latter (which is 100 miles in length), each of them receive several streams of from 20 to 40 miles long. The sea-coast of the Miramichi is low, but inland the country rises in some places, consisting of extensive and rich intervals; in others of a rugged rocky description. The country in general has scarcely yet recovered from the deso-

lating effects of the great fire, but the establishment and operations of the New Brunswick Company will, it is to be hoped, facilitate the settlement of so fine a territory.

Gloucester County joins Northumberland on the E. and S., and is bounded on the N. by Chaleurs Bay. From its extensive sea-coast and numerous rivers, this county has great facilities for fishing and lumbering; but its soil and climate are both favourable to agricultural pursuits, especially to the growth of grain. Bathurst (formerly called St. Peter's), the shire town, is pleasantly situated on a beautiful bay of the same name. It was formerly the boundary between the Mohawk Indians of Canada and the Mic Maes of Nova Scotia, and was the scene of many a sanguinary conflict. Four rivers empty themselves into Bathurst harbour, of which the Nepisiguit is by far the most important. This river descends from some lakes near the head waters of the Tobique (with which it is connected by a short portage), and flows in a deep and broad stream for about 20 miles, when its channel, which is of granite, forms a perpendicular cliff 140 feet high, over which it descends by four leaps or steps with great violence. For the rest of its course (about 80 miles) it is a rapid and tumultuous stream, unnavigable except for canoes and rafts. The parish of Saumarac comprises the headland and islands situated between Miramichi and Bay Chaleurs. At the entrance of the bay are the islands of Shippegan and Miscou. The former is 20 miles long, has a tolerably fertile soil, and is inhabited by Acadian French; the latter, forming the extremity of the cape, is 21 miles in circumference. When visited by Mr. McGregor in 1819, it was tenanted by a disbanded Highland soldier and his family, three of whom were drowned in attempting to cross to Shippegan. Miscou, Poksudie, and Caraqueette Islands, are inhabited by foxes; the two last form a safe entrance to Caraqueette Harbour. The coast is low, flat, sandy, and lightly covered with spruce and fir for two or three miles inland. From Miscou to Miramichi, and indeed to Shediac, the coast is skirted by large lagoons, some of them twelve miles long by three miles wide, which facilitate the coast navigation of small craft.

Ristigouche County occupies the most northerly portion of the province. The Ristigouche, or Big River, which rises near Temisquata Lake, and is supposed to be more than 220

miles long, with a general course E.N.E., nourished by numerous tributary rivers and streams, and forming, at its estuary, a large and commodious harbour. The entrance of the Ristigouche is about three miles wide, formed by two high promontories of red sand stone, with a bold opening unencumbered by bar or shoal, and containing upwards of nine fathoms water. Two miles from the mouth is the town of Dalhousie, with a broad river channel six or seven fathoms in depth, which may be said to extend for 18 miles, thus forming a safe and commodious harbour for the largest class ships. About 116 miles from Dalhousie is the compact village called Campbelltown. At upwards of 200 miles from its embouchure whither the tide flows, the Ristigouche is above a mile wide, and from thence, to within 40 miles of its source, it is navigable for barges and canoes. For 70 miles from Chaleurs Bay, the Ristigouche is flanked on either side by two stripes of high but level land, extending generally a mile back with a few prominent elevations, occupying the very edge of the water, and maintaining a position somewhat like the bastions of a fortress. The scenery in this county is exceedingly impressive; wherever the eye wanders nothing is to be seen but an almost incalculable number of lofty hills, interspersed with lakes, rivers, and waterfalls, glens and valleys; some of the mountains are clothed with the tall and beautiful pine—others sustain a fine growth of hard wood; many have swampy summits, and several terminate in rich meadows and plains; in form some are conical, others exhibit considerable rotundity; many look and attenuated, and not a few of the most grotesque shapes. Sometimes the precipitous banks of the river are 300 feet above its bed, and at every bend, which is about once in six miles, the voyager is deceived with the appearance of entering a well sheltered lake; but at about 70 miles from the sea, the country becomes comparatively level, and all the way to the head of the Ristigouche is a fine, bold, open territory, consisting of a rich upland, skirted with large tracts of intervale, and covered with a dense and unviolated growth of mixed wood, in which large groves of pine are very conspicuous. This fine county is but very thinly settled, a large portion is yet unexplored. Mr. Perley, the active and intelligent government emigration agent for New Brunswick, in a Report dated the 10th of November,

1815, thus speaks of the province as a field for emigrants:—"If the difficulties attendant upon the settlement of a new country be taken into consideration there can be no doubt that much has been effected in New Brunswick, within the brief period which has elapsed since its first settlement by British subjects; yet all that has been done is but comparatively trifling when considered with reference to the extent of country yet ungranted and uncultivated, and the abundant resources it possesses. As a field for the pursuits of agriculture, the prosecution of commercial enterprise, and the formation of flourishing settlements, this colony offers powerful inducements. It is blessed with a rich and productive soil; it abounds with trees of the greatest utility and value, and it is watered by innumerable rivers and streams. It rejoices in skies that are bright and cheerful, and a climate salubrious in the extreme, congenial to the growth not only of the necessaries but many of the luxuries of life: above all, it has the happiness to enjoy British institutions and forms of government modelled upon their prototypes in the mother country, which secure British laws and British freedom to all its inhabitants."

GEOLOGY.—New Brunswick presents the same general course which the principal formations of North America assume; namely, a direction of the rocky strata from S.W. towards the N.E., or *vice versa*, or on lines parallel to the border of the Atlantic. A spur of the Alleghany chain of mountains enters New Brunswick, crosses the river St. John, forms Mars Hill and other eminences, extends in a N.E. direction to the sources of the Miramichi, and other rivers, and gradually disappears towards the Chaleur Bay. Another slightly elevated ridge crosses the Schoodic river and Cheputnecticook lakes, to the Bull Moose Hill in King's County. Mr. Gesner says, these elevations form anticlinal ridges, against which the stratified masses lean, or they border immense troughs, containing the secondary and tertiary formations. They are chiefly composed of granite, sienite, trap rock, and porphyry.

In a country so little cleared, its minute geological features must necessarily be imperfectly known. A granite ridge crosses the Cheputnecticook river and lakes, and sends off a branch that finally reaches the St. John. Granite also occupies large tracts in Northumberland and Gloucester, and ap-

pears on the banks of the Nepisiguit. A belt of sienite and trappean rocks—ten miles in breadth, and at a distance of ten miles from the Bay of Fundy reaches from the Kennebecasis along the northern boundary of the county St. John, to the new county of Albert. The Silurian rocks, which include red and dark-coloured flags and slates, sandstone, freestone, shelly, and compact limestone, black and lead-coloured shales, concretionary limestone, and grey micaceous sandstone are found in various places, generally running from S.W. to N.E., and highly inclined.

Mr. Gesner enumerates the following as the principal useful rocks and minerals of New Brunswick:—

Granite, sienite, roofing slate, porphyry, mica slate, talcose slate, limestone, hydraulic limestone, marble, alum slate, coal, graphite (or plumbago), ochres, iron ores (abundant), manganese ores, galena (or lead ore), grindstone, freestone, sulphuret of copper, amethyst, agate, jasper, hornstone, thompsonite, stilbite, apophyllite, hornblende, feldspar, chlorite, garnets, tale, asbestos, magnesite, carbonate of lime, sulphate of barytes, gypsum, potter's clay, fire clay, sulphate of iron, tourmaline, serpentine, iron sand, iserine.

Spring.—Salt, sulphurous, carburetted hydrogen, ferruginous.

The Silurian rocks frequently contain organic remains, and in a section on the Ristigouche River and Chaleur Bay, Mr. Gesner noted the following features in descending order:—

STRATA.	ORGANIC REMAINS.
Impure grey and blue limestone	Producta spirifera, orthocera, triobites.
Calcareous and argillaceous shales	Crinoides, Cyathophyllum turbinum.
Earthy rotten shale	Atrypa aspera, with numerous testacea and corals.
Wenlock limestone.	
Compact blue limestone.	
Friable sandstone.	
Shelly limestone.	
Compact blue and grey impure limestone in black, blue, and red shale	Producta, terebratula, Cyathophyllum turbinum, Cyathophyllum hexagonum.
Grey and brown sandstones	Encrinural remains.
Compact limestone	Tentaculites ornatus, producta, terebratula, corals.
" sandstone	
Argillaceous and calcareous slates	Encrinural remains.
Coralline marbles	Corals.
Conglomerates	No organic remains.
Clay slate	No organic remains.

The carboniferous series, viz.; conglomerates, sandstones, shales, limestone, clay-iron stone, coal, and trap, similar to those of the coal-fields of Great Britain, extend along the

coast in nearly horizontal strata, and in the interior, especially at Westmoreland, are inclined in angles varying from 20° to 10° .

MINERALS.—New Brunswick possesses an extensive coal-field, which commences at Bay Verre, and crosses the isthmus between Nova Scotia and New Brunswick. It occupies the whole of the counties of Kent and Sunbury, the chief part of Queen's, York, and Northumberland, a part of Albert County, and nearly all Westmoreland: on its S. side it is 145 miles in length; on its N.E. about 110 miles: the area is estimated at 7,500 to 10,000 square miles, or nearly one-third part of the whole area of the province. This immense coal-field presents a low and level surface, excavated by water-channels, and, in general, not elevated more than 40 feet above the level of the sea. The coal, so far as known, is bituminous. A variety of cannel coal has been found in Albert County. The contemplated line of railway from Halifax to Quebec would intersect this coal-field, and open a vast tract of country for settlers.

A deposit of copper ore has been discovered on the banks of the Nepisiguit River, in the county of Gloucester, by Mr. Stevens. The metal, a green carbonate, is seen cropping out at the surface, nearly in a horizontal bed, about eight inches in thickness. A specimen, assayed in Cornwall, produced 53 per cent. of very fine pure copper. Mr. Frederick Burr states, that the green carbonate is most singularly intermixed with, or disseminated through, a thin stratum of imperfect coal or lignite, much in the same manner that the metallic ores are usually blended with their accompanying veinstones. An approach may, however, be observed to parallelism between the carbonate of copper and the enclosing layer of coaly matter. The specific gravity of the ore differs, of course, in proportion to the quantity of copper contained in the specimen, which is generally full one-half of the entire mass, but appears to vary from rather more than two and-a-half to about three.

Both the upper and under surfaces of this remarkable bed are very distinct and well defined, exhibiting the fibrous and vegetable structure of the lignite. It is covered by a few feet of alluvial soil, and rests on a thin stratum of conglomerate, containing rolled pebbles, which, at this point, covers the prevailing formation of the tract, a reddish sandstone, which probably rests upon the granite which Mr. Stevens describes as being

seen within about half a mile of the spot. Clay slate is also known in the same neighbourhood, some of the beds being used for roofing.

It is well known, that water charged with copper in solution, is, by the introduction of iron, made to precipitate the metal. The deposit of lignite occurring with the copper, is evidently derived from drifted vegetable matter; and from the mode in which the copper is interspersed throughout the mass, it would appear that the water on which it floated was, at the same time, saturated with a solution of copper, and that both the organic and mineral matter subsided to the bottom together, forming the singular compound now under consideration, and over which, probably, at a subsequent period, the alluvial covering was drifted.

Fossils are numerous in the coal-fields of New Brunswick: many are of great size. "In general," says Mr. Gesner—

"Every vestige of their leaves has disappeared, and nothing remains but the simple impression; but sometimes the leaf is seen in a thin paper-like lamina of coal, and even in the centre of clay-ironstone balls every fibre of the original vegetable texture is beautifully delineated.

"The fossil trees are of different kinds, and occur under a variety of circumstances. At the South Joggins, on the shore of Cumberland Basin, and in the face of a cliff, they are situated at right angles to the planes of stratification, or stand perpendicular to the strata; and as their roots are sometimes found attached, they evidently flourished on the spot. The only relic of the former living tree is the bark, which has been converted into coal, and still bears the original flutings, furrows, and leaf-scars of the plant. The cylindrical trunks have been filled up with sandstone, shale, &c., and now represent the original trees in solid stony columns, from 20 to 60 feet in length, and sometimes upwards of 4 feet in diameter.

In New Brunswick these fossil trees lie prostrate in and between the strata, so far as they have yet been observed. In some instances they have been changed into coal; in others, this change has been partial; and parts of many trunks on the shores of Chignecto Bay are composed of sandstone, iron pyrites, sulphate of barytes, and other minerals. At Bathurst, Carriboo River, and other places, the trees have been mineralized by copper, and their trunks have been worked out of the rocks and disposed of for copper ore, yielding 75 per cent. of pure metal. Large stems are found composed altogether of sandstone, apparently run in a mould like that of the iron-founder. In some of the large stems the ligneous fibre remains perfect and distinct: these are often mineralized by sulphate of barytes, or calcareous spar; they resemble rotten ash, and split lengthwise very readily. There is still another variety of large fossil trees in which the whole of the trunk has been changed into a compact lignite: the original bark now appears in coal, and when removed from the fossil, the tree resembles a peeled oak.

"*Stigmæria* are very numerous; and they are frequently found with their leaves attached and ex-

tending in all directions from their trunks into the shales and sandstones. *Lepidodendra*, *catanites*, *sigillaria*, *asterophyllites*, *Pecopteris louchitica*, and other well-known fossils, are abundant. The fire-clays beneath the coal are most frequently loaded with *stigmæria*, as observed by Mr. W. E. Logan in South Wales, and in the underclays of the coal of Pennsylvania. Among the coal-bearing strata there are sometimes thin layers of limestone containing shells, of which the *modiola* and *cypris* are most common; with them fossil fish have been found; these remains are of fresh water, and occasionally of marine origin. Sulphurous springs are common in the coal-field, and their waters are used by the inhabitants in the cure of cutaneous diseases."

There are 19 limestone quarries in St. John's, and 2 in Carleton. Freestone quarries—2 in Westmoreland; 1 in King's County; 2 in Sunbury; 3 in York; 1 in Carleton; 4 in Northumberland; 3 in Gloucester; 3 in Kent. There are 7 grindstone quarries in Westmoreland, and 2 in Northumberland; a slate quarry in Gloucester; 2 coal mines in Queen's, and 1 in Westmoreland; a manganese mine in Gloucester, and a salt manufactory in King's county.

Soils vary according to the two great classes into which rocks are divided, viz., those formed by the agency of fire, or of water. The disintegration of these rocks as stated in Nova Scotia, afford various soils, differing from each other in their chemical combinations, and adapted to the growth of various vegetable products. There are extensive deposits of alluvial matter scattered by currents over New Brunswick, generally from N. towards the S., often far distant from the place whence they were separated from the mountain rocks. In Westmoreland, Sussex Vale, and the Grand Lake districts, there are red and claret-coloured soils, covering plains that would otherwise have been far less favourable to vegetation. The counties of Charlotte, St. John, and King's, contain tracts of granite, sienite, and trap rocks, which, when decomposed and finely pulverized, yield wheat, oats, potatoes, and Indian corn. The trap rock soil contains much potash, and almost always produces hard wood, such as beech, birch, oak, maple, ash, and butter-nut.

Kent and Sunbury have a rich, mellow covering of earth. Along the coast of the Bay of Fundy the soil produced from greywacke or granwack, talcose slate, and limestones, yields groves of cedar, fir, spruce, hemlock, and small pines, with laurel bushes and cranberry bogs. The soils derived from limestones, gypsum, conglomerates, red marble sandstone, and shales, are very fertile, and

of various degrees of tenacity. The alluviums forming the best intervals, are a dark brown mould, from 1 to 20 feet in thickness, and never require manure. They are called "heaver meadows," from having frequently been formed by these industrious animals constructing dams across the rivulets to supply water, where they could be protected from their enemies. From the American frontier across the river St. John, between Woodstock and Madawasee, in a N.E. direction to the Ristigouche and Chaleurs Bay, a superior soil is derived from the extensive groups of calcareous, argillaceous, and silicious rocks. The shores of New Brunswick contain abundance of marine plants and shells, which furnish excellent manure, and some of the soils where slightly subjected to the action of fire when burning off the timber, are thereby improved.

Climate.—New Brunswick, like other portions of the North American continent, partakes of the extremes of heat and cold; the thermometer sometimes rising to 100° F. during the day, and falling in the forest during the night of the same day to 50°. The North Pole, overspread to a vast extent with perpetual ice and snow, sends forth a W. and N.W. wind, which, even in the hottest months of the year, produce a freezing effect. The S. wind is always warm; a S.W. wind produces during the summer, dense fogs along the shores of the Bay of Fundy, which do not extend above 15 or 20 miles into the interior, where they are dispersed by the warm air. A shift of wind during winter or summer, will produce in 24 hours a totally different temperature; and wherever the land is not cleared the melting of the snow is retarded in spring, and the ice appears in autumn sooner than in the open and cultivated country. The climate of the coast, which is humid, differs from that of the interior, which is dry. At St. John's the range of the mercury is from 23° below zero to 88°; at Fredericton from 35° below zero to 95°. The climate of New Brunswick differs but little from that of the state of Maine, Eastern Canada, the north shores of Lake Huron, and part of the Michigan territory. In summer, twilight is seen after nine o'clock in the evening; and daylight begins at two in the morning. The Aurora Borealis is brilliant at all seasons. The following table and the appended remarks indicate the extremes of temperature, the daily average of temperature, the prevailing winds and weather throughout the year:—

*Meteorological Table for Fredericton, N. Brunswick,
Lat. 45° 57', Long. 66° 45'.*

Monthly.	Fahrenheit Thermometer.				Days of Wind.					Days of Weather.				
	Highest.	Lowest.	Daily Average.	Greatest Variation.	Days of Wind.				Variable.	Days of Weather.				
					E.	S.	W.	N.		Fair.	Rain.	Fog.	Snow.	
January	22	12	17	24	4	—	7	6	14	24	2	1	4	5
February	36	19	24	34	2	4	4	2	16	23	1	—	—	—
March	39	30	33	20	23	2	5	—	1	22	7	2	2	—
April	44	36	40	14	12	4	11	—	5	22	7	—	—	—
May	49	44	47	10	20	1	7	—	3	18	8	—	—	—
June	50	45	48	28	19	1	10	—	15	6	9	—	—	—
July	75	58	65	14	20	1	7	2	2	18	3	10	—	—
August	75	64	69	12	17	—	9	4	1	23	3	—	—	—
September	63	56	61	16	17	—	10	2	1	17	5	8	—	—
October	48	42	47	20	14	—	8	—	9	22	2	—	—	—
November	34	28	31	16	11	5	—	14	—	15	8	—	—	—
December	16	11	13	24	—	—	9	14	8	26	—	—	—	—
Mean and Total.	45	37	41	22	150	17	87	41	58	245	52	47	21	5

1st. The severest cold of the winter usually continues from the 21st of December to the 21st of March, when the common range of the mercury is at sunrise between 20° and 19°; and at two p.m. between 5° and 30°: though changing towards the middle of March, to 37° and 43° in the heat of the day. It is worthy of observation, that there are, during this season, fifteen days in which the mercury remains below 14°; and only five days in which it does not freeze: a remarkable instance of the severity of an American winter in latitude 46°, which is the parallel of the central parts of France, and the north of Italy.

2nd. From the 21st March to the middle of April, the thermometer ranges at sunrise between 19° and 35°, and at two p.m. between 35° and 46°. From the middle to the end of April, a great increase in the temperature is evident: although it sometimes freezes slightly in the mornings, yet the mercury frequently reaches to 55° and 64° in the heat of the day.

3rd. During May, the mornings continue cold, (being in five cases below freezing, and only two at temperate,) yet the change in the temperature at mid-day is remarkable, being often 62° and 72°.

4th. June, July, and August are very similar in their temperature. The range in the morning is commonly from 55 to 66, and at mid-day, from 71 to 84. In these three months, and until about the 15th September, the thermometer is, during thirty-eight days, at two p.m. above summer heat, exhibiting a singular contrast to the extreme cold of the winter, such as is scarcely to be found in any other part of the world.

5th. After the middle of September there is a rapid decrease in the heat of the mornings. The thermometer in October at sunrise, on eight or ten days, is below freezing. From the 15th or 20th November to the same time in December, it freezes regularly, though not severely, in the mornings. In the latter month indeed, it mostly remains below freezing.

The prevailing summer winds are from the W.S.W. and South.

The winter season is firmly established at the end of December or beginning of January, but the deepest snows fall in February, or early in March, to the depth of 8 to 12

inches, when boisterous storms sweep the snow with great fury along the face of the open country, leaving some places bare, and raising in others immense drifts or banks. These violent storms seldom last more than one or two days. The vernal equinox generally brings strong gales from the S., accompanied by a thaw. Ice disappears in the bogs, lakes, and rivers, soon after the first of April; ploughing begins at the end of the same month, when summer wheat and oats are sown; in May vegetation rapidly advances, gardening is commenced; potatoes are planted, and barley sown before the end of May. Turnips are sown in the middle of July, when hay-making commences. Barley is reaped in August, wheat and oats in September. Potatoes and turnips are left under ground until the middle or end of October, and parsnips are best if not dug up until spring. Cucumbers, salads, cabbages, cauliflowers, asparagus, and indeed all the culinary vegetables known in England, arrive at perfection; as do also apples, peaches, pears, plums, damsons, currants, gooseberries, strawberries, and raspberries. Grapes when sheltered ripen in the open air. These products indicate that the climate offers no impediment to emigration.

Mr. Hooper, after 13 years' experience in the North American colonies, speaking of New Brunswick, says:—

"The climate is yearly meliorating its rigours; the winters are by no means so severe, or of the same duration, as ten years since, and the reason, to a philosophical mind, is obvious. The rapidity with which settlers are clearing the forest, and opening to the light of heaven the face of the earth, gives to the sun's influence a much greater space of country annually; and, as a natural consequence, the snows melt more early and rapidly, the winters are consequently shorter than formerly. Twenty years since, the winter commenced early in November, and continued generally till the end of April, making nearly a six months' winter; but within the last five or six years there has been no dead winter until Christmas, and the spring has usually opened in the early part of April, making the winter of little more than three months' duration. It cannot, with all the variations of climate, be said with propriety that the full duration of winter is more than four months. Though the cold is intense for nine or ten weeks, the air is dry and elastic, and free from the chilling moisture of a British winter."

The remarks as to amelioration of climate must be considered applicable to the interior, rather than to the sea-coast or adjacent districts; for the following table of the opening and closing by ice of the river St. John for 24 years, does not indicate any favourable change.

Opening and Closing of St. John River at Fredericton.

Years	Opened.	Closed.	Days open	Remarks.
1825	Apr. 15	Nov. 20	219	
1826	" 17	" 14	211	
1827	" 6	Dec. 3	241	
1828	" 20	Nov. 19	213	
1829	" 17	" 15	212	
1830	" 18	" 29	226	{Dec. 26, moved and closed again.
1831	" 10	Dec. 1	235	{Dec. 6, opened and closed; Ap. 10, ice jam.
1832	May 3	Nov. 15	199	{Nov. 19, moved; 22, closed.
1833	Apr. 10	" 5	219	{Nov. 19, opened; 29, closed.
1834	" 11	" 17	220	Nov. 16, men crossed.
1835	May 1	" 23	206	
1836	Apr. 28	" 19	205	{Ap. 21, moved; 24, jam.
1837	" 17	" 9	206	{Nov. 24, opened and closed.
1838	May 1	" 25	208	
1839	Apr. 25	" 23	236	{Nov. 25, moved; Dec. 19, closed.
1840	" 16	" 23	221	
1841	" 27	" 27	214	{Nov. 27, Steamer Fredericton sailed.
1842	" 24	" 22	212	
1843	" 26	" 14	202	{Nov. 21, moved; Jan. 21, moved.
1844	" 14	" 27	227	
1845	" 23	Dec. 4	225	
1846	" 6	Nov. 28	236	{Mar. 29, moved; ice jam.
1847	" 2	" 20	254	{Nov. 24, opened; Dec. 15, Steamer arrived;
1848	" 19	" 13	208	{Dec. 16, closed again; Steamer St. John sailed.

Note.—The average period during which the river remains open is 218 days: it will, therefore, be shut 147 days, or two-fifths of the whole year. In 1832, the river was open for the shortest, and in 1847, for the longest period of which we have any notice.

But whatever may be the duration of winter, or the heat of summer, the salubrity of the province is unquestionable. In the *Journal of the House of Assembly* for 1846, there is a return of the pensions allowed by the province to old soldiers and their widows during the year: the number thus pensioned from the revenues of New Brunswick is small; but the longevity of the pensioners is remarkable. The return is dated March, 1846, is made for each county, and gives the name, residence, and age of every pensioner. In Carlton County, 20 pensioners—one of 112 years of age (George Sinnett); one 98; one 92; and the others averaging from 70 to 90. York County, 36—three of 90 and upwards; 11 of 80 and upwards; 12 of 70 and upwards. Charlotte County, 36—one 101 years of age (Susanna Watman); 16 ranging from 80 to 97 years of age; and 12 from 70 upwards. The other counties present similar

instances of longevity, such as would not probably be found in any other country among an equal number of persons of the same class. The salubrity of the climate is thus forcibly attested.

The autumn in New Brunswick, as in other parts of the North American continent, is a season of great beauty and delight. Every tint of colour is observable in the woods, the air is dry and clear; and in November that peculiar change termed the "Indian summer," with its serenity and blandness, its expansive and brilliant aurora at night, and highly charged electrical state of the earth, breaks what would otherwise be a long winter. Shocks of an earthquake were felt in 1663, in 1827, and in 1839. Diseases are few and comparatively simple.

VEGETABLE KINGDOM.—*Timber Trees.*—The lumber trade is so considerable a source of wealth, that a brief description of the principal forest-trees of British America may be useful. For more detailed accounts, Sir A. B. Lambert's splendid work on American Pines, Mr. Perley's "Report," and the *Canadian Naturalist*, by Mr. Gosse, may be advantageously consulted. The chief American timber for commercial purposes is of the genus *pinus*, which includes the resinous evergreens termed pines and spruces, mostly to be found between the 43rd and 50th parallel of latitude in great perfection, where they generally cover the low grounds and valleys, forming what is termed "soft woodlands." Among the principal of this class are the white pine (*pinus strobus*); the red pine (*pinus rubra*); the black pine (*pinus nigra*); hemlock (*pinus Canadensis*); the spruce (*pinus nigra* and *alba*); the balsam, or fir (*pinus balsamea*); the tamarack (*pinus pendula*); the cedar (*thuya occidentales*). About ten species of pines exist in Canada, New Brunswick, Nova Scotia, Prince Edward's Island, and Newfoundland. The difference between the pine and the spruce is in the arrangement of their foliage. In the pine, two, three, or five thread-like leaves are united in the same sheath; in the spruce, the shorter leaves are attached singly round the branch, or upon its opposite sides.

The *pinus strobus*, or white or yellow pine, known in England as the Weymouth pine, is a majestic and beautiful tree, of which some specimens have been found on the Columbia river, 250 feet high, and 50 feet in circumference. When growing in open situations it is feathered to the ground, and

ries in the form of a pyramid. In Canada and New Brunswick it is occasionally found 150 feet high, with a diameter of five to six feet, at three feet from its base. In New Brunswick and Nova Scotia the white pine is the first tree to take possession of barren, deserted lands, and the most hardy in resisting the impetuous storms of the ocean. The age these trees attain is not known: 1,500 annular divisions have been counted. The colder the situation the slower the growth, and the harder the timber. For nearly three-fourths of its height the trunk is single, the limbs short, and disposed one above another; the head is formed by a few upright branches. The wood is soft, light, of fine texture, easily wrought, durable, and not liable to split when exposed to the sun. On dry and elevated lands the wood is harder, of a coarse grain, and marked by more distinct concentric circles. When seasoned, it may be thus compared with the larch and spruce, taking for a standard the oak at 100:—

Woods.	Weight of a cubic foot	Stiffness.	Strength.	Toughness.
White Pine . .	lbs. 28	95	99	92
American Larch .	35 to 41	79	103	134
Black Spruce . .	29	72	86	102

The white pine is equally adapted to furnish masts for the largest ships of war, or to be applied to the most ordinary purposes in our dwellings. If properly seasoned before use, it has no tendency to dry rot; and the unqualified assertion, too frequently made, that all British American pine is bad, and all Baltic timber good, is not supported by facts.

Mr. Perley states, that at "one of the public docks in England, a very extensive granary of four floors, of 9,200 square feet in area, and which contains about 9,000 quarters of grain, has been built entirely of colonial white pine, with the exception of the uprights, which are of red pine. It has now stood 20 years, and is stated to be in every respect perfectly sound and unwarped. It was allowed to remain five years to dry before painting, and up to this time has been painted but thrice. The architect states, that he considers it likely to stand 90 years. An extensive outside fence of white pine was put up in England 23 years since, and is still perfectly sound; it also was allowed to remain five years to dry before painting. All experience,

both in England and America, has shown, that when used for outside purposes, it should be allowed to dry thoroughly before being painted; and that unless sufficient time be given for the vegetable juices to evaporate, white pine will suffer from the dry-rot in the same manner as other timber under like circumstances. An instance is mentioned of a church in Hertfordshire being fitted up with the choicest oak, and instantly painted with several coats before the vegetable principle had exuded. In a very few years, the beautiful work in the chancel was obliged to be taken down, perfectly rotten; and, at this time, the greater part of the pews are in a similar state."

The value of this description of pine for masts of large ships is very great. In Murray's "British America," mention is made of two masts for 74-gun ships in the dockyards at Plymouth, which measured 108 feet in length, and a roller that was everywhere 3 feet in diameter. Such a tree must have been 200 feet long, with a diameter of 5 or 6 feet.

It is essential to the durability of timber that it be cut at the period of the dark moon. There appears to be an ascent and descent of some sap or vegetable life in trees thirteen times in the year, rising and waning with the moon. This has been specially noted with timber growing in tropical countries. The American government are so well aware of the influence of the moon, that the timber supplied for their ships of war is required to be girdled or felled at the dark moon, between the 20th October and 12th February. White pine logs, if stripped of their bark, will remain uninjured thirty years; if not, they are attacked by large worms. Stumps left in the ground resist the influence of heat and moisture many years.

Larix Americana.—A larch—*hacmatack* of the Indians—*tamarack* of the Dutch—termed also *pinus larix*. Leaves deciduous, cones oblong, margin of the scales bent in, bracts fiddle-shaped. Mr. N. Gould, an American merchant of high scientific acquirements, who has travelled extensively in the United States and British America, informs me, that the *hacmatack* grows generally throughout the North-Eastern States of the Union and British America, but is found in the largest quantities in New Brunswick, Nova Scotia, and Prince Edward Island. The timber is straight-grained and fitted for small spars of ships; Mr. Gould,

however, mentions having the mainmast of a vessel of 659 tons made of it—and states that it works roughly—is rather given to warp—is hard, strong, and very durable. In the colonies it is generally used as a building timber, both for houses and small craft; it is particularly approved for knees to fasten the beams of ships, and the butt of the stem, one of the principal roots forming the angle required. Treenails made of it are also considered to be of very superior quality. It is not a timber of commerce, nor is it used to any extent, but for house and ship-building in the colonies. It is sometimes sawn into deals, but never shipped as hachmatack deals, being occasionally called juniper, or red spruce, though more generally confounded with spruce and hemlock, and shipped as inferior goods. Hard working and warping deals, however valuable on the score of strength and durability, are not esteemed in the home market, where softness of grain, freedom of working, and absence of warping, have given a preference to the white or yellow deal of America. The wood burns with a crackling noise, and though not so easily ignited as most of the pine tribe, when once blazing, burns with great briskness, giving out fervent heat; and, therefore, in great request for the fuel of steamboat engines in Canada and the United States. Colonial vessels built of this wood are notoriously durable, inferior to none but teak or British oak; and excepting in one instance, (the *British Merchant*,) there is no record of such vessels having been destroyed by dry rot; whilst in several cases, the oak and other material surrounding, and attached to the hachmatack, has been found destroyed by dry rot, while the larch has remained perfectly free.

Sir A. B. Lambert, in his splendid work on the pines, describes two species of American larch—*larix Americana* and *larix microcarpa*—the latter characterised by smaller cones and more drooping branches. Mr. Perley thinks there is no real foundation for the distinction, and *larix microcarpa* is not now considered a distinct species, but merely a variety of the *larix Americana*, the difference being occasioned by the influences of soil and situation, which so much affect all the resinous trees. Linnaeus states that larch trees live to the age of four hundred years; but, judging from the number of concentric circles in large trees, they would seem to attain even a greater age in New Brunswick.

Michaux the younger says, "The wood of the American larch is superior to any species of pine or spruce, and unites all the properties which distinguish the European species, being exceedingly strong and singularly durable." Tredgold says it is extremely durable in all situations, failing only where any other wood would fail. Tiberius caused the Naumachiarian Bridge, constructed by Augustus, and afterwards burnt, to be rebuilt of larch planks brought from Rhaetia. Among these was a trunk 120 feet in length, which excited the admiration of all Rome. Wrieking, in his celebrated work on bridges, says that larch is preferable to the pine, the pineaster, or the fir, for constructing the arches of wooden bridges. In some parts of Kamschatka it arrives at a considerable size, and is there used for ships, which last extremely well. Painters, from the time of Pliny to that of Raphael, trusted their works to this wood, which the Roman naturalist styles *immortale lignum*. For ship planks it is much used; and few descriptions of wood, if any, are superior to it for this purpose. It is exported largely to Great Britain for railway sleepers, for which it would seem to be admirably adapted, not only from its strength and durability, but because it bears the driving in of bolts and nails better than any other kind of resinous wood. It is peculiarly adapted for flooring-boards in situations where there is much wear, and for staircases; in the latter, its fine colour when rubbed with oil, renders it greatly preferable to any painted wood, not for reasons of economy alone, but also from its appearance. It is equally well suited on the same account for doors, window shutters, and many other purposes. It makes excellent treenails, little, if at all, inferior to those of the acacia, or locust tree. The wood of the larch tree is said to be much improved in hardness by barking the trees in spring, and felling them late in the autumn. The wood becomes very hard by seasoning, burns with difficulty, and does not readily absorb water. It is stronger and much tougher than oak, but not so stiff; and it has been recommended by Tredgold that, with a view to improve the stiffness of the wood for joists and beams, further experiments should be made of barking trees some time before they are felled. From the form of the tree, barking could be easily accomplished as far as necessary.

The Duke of Athol's celebrated larches

were planted in 1736. In 1831, at 95 years of age, one of the Athol larches is said to have contained 368 feet, or seven loads eighteen feet, which, at the present price of Baltic fir (*pinus Silvestris*, or Scotch fir), would be worth about £13. The duke who planted them was buried in a coffin made from the largest, which measured 106 feet in length. He planted about 8,000 acres with this tree, in the neighbourhood of Dunkeld and Blair Athol.

In Switzerland the larch abounds, and the dwellings of the peasantry attest its durability as a building timber. The Romans when first acquainted with the larch, during their German wars, lost no time in bringing it down from the Alps by the river Po, thence to be conveyed to Rome for building purposes. Vitruvius bears evidence of its value, as building timber. Pliny says, "This tree is the best of the kind that bears rosin; it rots not, but endures a long time." And this assertion of Pliny's is well borne out by what is stated as a fact—that the immense floating palace or ship, built by the emperor Trajan, as a summer residence on Lake Nemi, of cypress and larch, having been weighed up, the timber was found sound after 1,400 years' immersion. It is worthy of remark, that this vessel appeared to have been sheathed with lead, fastened with copper nails, double planked, and caulked with linen rags, payed over with Greek pitch (*asphaltum*). In Russia, whilst the exportation of oak is permitted, the larch is a government monopoly, for the national purpose of ship building, and its exportation prohibited. Of the applicability of larch to purposes of ship building, and of its durability, we find the following notices:—"In the year 1809, larch timber, grown by his grace the Duke of Athol, was first used for the British navy in building, at Woolwich dock-yard, the *Scrapis* store-ship; the *Sybil* frigate; the bottom of a lighter; and for piles driven into the mud alternately, wet and dry; and in all the various situations, proved a strong and durable timber." The Athol, of twenty-eight guns, was also built entirely of larch of the same growth; and, at the same time, the *Niemen*, of Riga timber. After their first courses of service they were both examined, when the *Niemen* was found in a decayed state, and condemned accordingly, whilst the Athol was again put into commission, and after a second course of service again examined, and again found sound; and she has ever, from that to the

present day, endured the incessant wear and tear of a store-ship, in every climate for 30 years. It was also observed, that during the period that this timber lay in Woolwich dock-yard, exposed to the weather, neither the heart nor the sap-wood exhibited decomposition, nor did lichen or fungus grow thereon.

Pinus Nigra.—The black spruce, sometimes called red spruce, most abundant between the parallels of 41° and 53° , constitutes a thin part of the forests of New Brunswick, and of Prince Edward Island, grows 70 to 80 feet high, with a diameter of 18 to 21 inches, regularly diminishing from base to summit. Leaves four-sided, scattered on all sides of the branches, erect, straight, cones ovate, scales oval, with undulated margins, close-toothed at the apex, trunk smooth, (that of the pines is rough) branches horizontal, not declining like those of the true Norway spruce; distinguishing properties, strength, lightness, and elasticity. It furnishes fine yards and topmasts, and is frequently used for the knees of vessels, which are formed of the base of the trunk and one of the principal roots, and are said to possess great strength and much durability. By many, the wood of the black spruce is preferred to that of the white pine; for flooring, it furnishes the spruce deals of commerce, which now constitute one of the largest and most valuable exports of New Brunswick. These deals are of the uniform thickness of 3 inches, not less than 12 feet in length, and 9 inches in breadth. The most usual dimensions are 9 and 11 inches in width, and lengths of 12, 14, 16, 18, and 21 feet. Spruce battens are 12 feet long, 7 inches in width, and $2\frac{1}{2}$ inches in thickness. The manufacture of spruce deals commenced in New Brunswick about the year 1819, and has since been increasing. The erection of steam saw-mills within a few years, has greatly increased this branch of business, and enhanced the value of spruce logs.

From the young branches of the black spruce is made the salutary drink known by the name of "spruce beer," which in long voyages is found an efficacious preventative of scurvy. The twigs are boiled in water, a certain quantity of molasses or maple sugar is added, with a little yeast, and the mixture is left to ferment. The essence of spruce is obtained by evaporating to the consistence of an extract, the water in which the summits of the young branches have been boiled.

The leaves and buds of the black spruce

are not known to be eaten by any living thing except the "spruce partridge," which picks the buds in the spring of the year, whence it derives its name, and its bitter flavour.

Abies Alba, the white spruce, is found in the same countries as the preceding, but not quite so far north. From the unpleasant smell of the foliage, it is sometimes called "cat" spruce.

The leaves of both encompass the branches, but those of the white spruce are less numerous, longer, more pointed, at a more open angle with the branches, and of a pale bluish-green; the cones are also peculiar, being of a lengthened and oval form, above 2 inches in one direction, and 6 or 8 lines in the other; the dimensions vary according to the vigour of the tree, but the form is unchangeable. Scales loose and thin, with entire edges unlike those of the black spruce; the seeds are rather smaller, and ripen a month earlier; trunk more tapering than the black spruce, inferior in stature, rarely exceeding 50 feet in height, and 16 inches in diameter at three feet from the ground; bark lighter coloured. Wood used for the same purposes as the black spruce, but inferior in quality. Fibres of roots used by the Indians for stitching their bark canoes. Branches not used for beer on account of their unpleasant odour.

Both the black and the white spruce are easily propagated by their seeds, or by transplanting into proper soils; they afford one of the most dense and compact screens, or shelters from the wind, that can be made by trees. They are cleanly, comparatively of slow growth, durable, and live to a great age. They abound in thick masses, of stunted growth, on the rocky shores and inlets of the Bay of Fundy. Their fine dark green, conical tops, contrast strongly with the snow during the cold season, and they form one of the most striking characteristics of a winter scene on the seaboard, living and thriving as they do, where other trees could scarcely obtain foothold, and seeming to bid defiance both to the ocean and the storm, even during a combination of their utmost strength. The white spruce was the most northerly tree seen by Dr. Richardson on the Coppermine River, within 20 miles of the Arctic Ocean; it attains a height of 20 feet.

Pinus Rubra.—The red pine, called by the Hudson's Bay people the Juniper, extends from beyond Lake Superior, to the 42nd parallel; it is chiefly found mingled with the

white pine, or in small tracts by itself. Dr. Richardson found it in swampy situations, from York Factory to Point Lake, in 65° N., but very dwarfish, seldom exceeding 6 or 8 feet in length. The leaves are of dark green, in pairs, 5 or 6 inches long, and collected in bunches at the extremity of the branches; flowers bluish the first month of their appearance; cones ovate, conic, rounded at the base, about half as long as the leaves, without thorns, scales dilated in the middle, shed their seeds the first year; height of trees, 70 or 80 feet; diameter, 2 feet and upwards; trunk uniform in size for two-thirds of its length. Wood, a fine compact grain, heavy from the resinous matter with which it is impregnated; highly esteemed for strength and durability in ship-building. Deck planks have been procured 40 feet in length without a knot. The Canadian red pine differs from the Norway pine, with which it is sometimes confounded; the Norway pine is a species of spruce.

Abies Canadensis.—Hemlock spruce is found as far N. as 51°, and is natural to the coldest regions of North America; leaves, 6 or 8 lines long, flat, numerous, and irregularly disposed in two ranks, and downy at their unfolding. Height, 70 to 80 feet; diameter, 2 to 3 feet; uniform for two-thirds of its length; and if the concentric circles in the wood are to be considered as an indication of age, it requires two centuries to reach full growth. It is used for sleepers of railways, for wharfs, or mimes, where it is constantly wet; and for lath-wood. The bark is extensively used in tanning.

Abies Balsamifera.—*Pinus Balsamea*.—A beautiful evergreen tree, in open situations feathered to the ground, and rising in a pyramidal shape to the height of 30 feet or more; and on these accounts, much planted for shrubbery and park scenery in Great Britain. The body tapers from a foot in diameter at the surface of the ground, to 7 or 8 inches at the height of 6 feet. When standing alone, and developing itself naturally, its branches, which are numerous and thickly garnished with leaves, diminish in length in proportion to their height, and form a pyramid of perfect regularity. The leaves are 6 or 8 lines long, and are inserted singly on the sides, and on the top of the branches; they are narrow, rigid, and flat, of a bright green above, and a silvery white beneath, whence the name of the tree is probably derived. The cones are nearly cylindrical, 4 or 5 inches long, and an inch in diameter, and always directed

upwards; this characteristic also belongs to the silver fir of Europe, and distinguishes these species from others of the fir tribe, whose cones are turned towards the earth. The famous *Canada Balsam* is procured from this tree; it is found in small blisters or vesicles in the bark, extracted by incision, and received in a limpid state, as a greenish transparent fluid, acrid, into a shell or cup. The Indians use it for fresh wounds, and also take it internally. Perhaps there is not a better varnish for water-colour paintings, than that which is prepared from this liquid resin. The branches of this, as well as the hemlock, are used by the Indians, and Canadian voyagers, to sleep upon. In their winter voyages, they scrape the snow into heaps with their snow-shoes, making a kind of snow wall on each side of their hair, then strewing the ground with young branches, properly laid down, wrap themselves in their blankets; and thus sleep, when the thermometer is many degrees below zero.

Pinus Banksiana or *Ruprestres*.—The gray chipm, or scrub pine, is found farther N. than any other pine. Michaux says, "in the environs of Hudson's Bay, and the great Mistassin lakes, the trees which compose the forests a few degrees farther S., disappear almost entirely, in consequence of the severity of the winter, and the sterility of the soil. The face of the country is almost everywhere broken by innumerable lakes, and covered with large rocks, piled upon each other, and usually overgrown with large black lichens, which deepen the gloomy aspect of these desolate and almost uninhabited regions. Here and there, in the intervals of the rocks, are seen a few individuals of this species of pine, which fructify, and even exhibit the appearances of decrepitude, at the height of three feet. One hundred and fifty miles further S., its vegetation is more vigorous, but it is still not more than eight or ten feet high: and in Nova Scotia, where it is confined to the summit of the rocks, it does not exceed this stature." The leaves are united in pairs in the same sheath, but disseminated over the branches, instead of being collected in bunches at the extremity; about an inch long, flat on the interior, and rounded on the exterior face. The cones commonly in pairs, of a gray or ashy colour, about two inches long, always point in the same direction as the branches; naturally assume an arching shape, which gives them the appearance of horns; are extremely

hard, and do not open to release the seeds until the second or third year.

A pine of gigantic size has been discovered by Mr. D. Douglas, W. of the Rocky Mountains; one specimen (not the largest blown down,) was measured by him, and found to be 215 feet in length; circumference, 3 feet from the ground, 57 feet 9 inches; and 134 feet from the ground, 17 feet 5 inches. Cones, 12 to 16 inches in length, and 11 in circumference. They are two years acquiring their full growth; when the trunk is partly burned, the resin which exudes is sweet and used as sugar. The seeds are roasted for food, and made into cakes. This magnificent pine is termed *Sambertiana*.

Thuja Occidentalis.—White cedar, a handsome and useful tree, which grows chiefly in marshes to the height of 40 or 50 feet, and 2 feet in diameter; leaves evergreen, small and curiously imbricated or lopped over each other; branches slender and usually pendulant, bark fibrous and stringy; flowers scarcely visible; cones very small, rugged, of a greenish, and subsequently, bluish tint. Michaux states that he counted 277 annual layers in a trunk 21 inches in diameter, at 5 feet from the ground; and 47 in a plant only 8 inches thick at the surface, which proved it to be then 50 years old. Wood—white, light, soft, fine-grained, and easily wrought. When sufficiently seasoned, and exposed some time to the light, it is of a rosy hue; and has a strong aromatic odour, which it preserves as long as it is guarded from humidity. The perfect wood resists the succession of dryness and moisture for a great length of time, and this constitutes its great value for fencing. Rails of split cedar have been known to last from 50 to 60 years *when deprived of the bark*. Shingles of white cedar have been known to last upwards of 30 years; when sawed into very thin boards, used for the construction of light boats, especially for those used in the whale fishery.

Mr. Perley says, that the superior fitness of this wood for various household utensils, has given rise in the United States to a distinct class of mechanics, called "cedar coopers," who principally fabricate large and small tubs, pails, churns, and other household utensils, as well for export as for home consumption. This ware, instead of becoming dull, like that of other wood, becomes whiter and smoother by use. It is esteemed the best wood in which to preserve oils. Charcoal, highly esteemed in the manufacture of

gunpowder, is made of young stocks about an inch and-a-half in diameter, deprived of their bark. The seasoned wood affords a beautiful lamp-black, lighter and more intensely coloured, though less abundant than that obtained from the pine.

Arbor Vitæ—American—A species of *thuya*, abounding in favourable situations, such as sedgy swamps and borders of lakes, between the parallels of 45° and 48°. Two varieties, the "striped-leaved" and the "sweet-scented:" height, 40 feet; diameter, about 2 feet; growth, extremely slow. The valuable properties of the wood are well known.

The cedar generally escapes the ravages of the *bostrichus piniperda*, the most destructive of the insects which commit great ravages on the fir tribe. "This little animal," says Mr. Perley, "introduces itself into the cellular integument of the bark, and succeeds in dividing it from the trunk. The separation of the bark prevents the circulation of the sap, and hence results the inevitable death of the tree. In dense groves of trees of the fir tribe, where only a few are felled, these insects multiply rapidly on the tops and branches which are left after the removal of the trunk, and they thence extend to the standing timber, attacking generally the oldest trees, and those which have any defective art. Young and thrifty trees resist their attacks."

The leafy trees of British America are composed chiefly, of the *quercus*, two species—gray and red oak; of *juglans*, one—the walnut, or butternut; of *acer*, five—the white, red flowering, sugar or rock, moose wood, and low maple; of *cornus*, one—the dogwood; of the *betula*, four—the canoe, white, yellow, and black birch; of *alnus*, two—common and black alder; of *cerasees*, two—the wild and the northern cherry; of *populus*, two—the balsam poplar (balm of Gilead), and the American aspen; of *fagus*, two—white and red beech; *carpinus*, two—American horn-beam and iron wood; of *fraxinus*, two—white and black ash; of *salix*, three—the black, champlain, and shining willow; *ulmus*, two—the white and red elm; and of the *zilia* one—the American lime, or bass wood.

I am indebted for the following interesting description of these several trees to H. M. Perley, Esq. :—

Gray Oak—*Quercus borealis*, seldom, if ever, exceeds 40 feet in height, or 2 feet in diameter. It

blooms annually. A cubic foot of the gray oak from the Grand Lake, in Queen's County, New Brunswick, weighed 52 pounds when well seasoned.

Red Oak—*Quercus rubra*, a tall, wide-spreading tree, of larger size than the gray oak. Leaves are smooth and shining on both sides; in the autumn they change to a dull red, and turn yellow before they fall. The acorns are large and abundant, rounded at the summit, compressed at the base, and contained in flat cups, covered with narrow compact scales. They are voraciously devoured by wild animals, and by cows, horses, and swine, when ranging the woods after the herbage has perished. Wood reddish and coarse-grained, and the pores are often large enough for the passage of a hair. Tolerably strong, but not very durable, and it is chiefly used for the staves of barrels and casks, in which to contain dry wares. A cubic foot of this wood, well seasoned, weighed 44 pounds. A cubic foot of English oak, when seasoned, weighs from 50 to 54 pounds.

Butternut.—*Juglans Cathartica*, frequently attaining the height of 80 feet, and the diameter, at 4 feet from the ground, of 6 to 8 feet. The roots of a large-sized tree, often extend even with the surface of the ground, in a serpentine direction, and with little variation in size, to the distance of 40 feet. The trunk ramifies at a small height, and the branches, seeking a direction more horizontal than those of other trees, and spreading widely, form a large and tufted head, which gives the tree a remarkable appearance. The fruit is commonly single, and suspended by a thin, pliable foot-stalk, about three inches in length; its form is oblong oval, without any appearance of seam. It is often two and-a-half inches in length, and five inches in circumference, and is covered with a viscid adhesive substance, composed of small transparent vesicles, which are easily discovered with the aid of a glass. The nuts are hard, oblong, rounded at the base, and terminated at the summit in an acute point; their surface is very rough, deeply and irregularly furrowed. They are ripe in New Brunswick in October, and in some seasons are so abundant, that one person may gather several bushels of them in a day. The Indians, in former times, pounded and boiled the kernels, and separating the oily substance which swam upon the surface, mixed it with their food. These kernels are very oily, and hence the name of 'butternut.'

"When the fruit has attained about half its growth, it is sometimes used for making pickles, being first plunged into boiling water, then thoroughly wiped to clean it of its down, and afterwards preserved in vinegar. If the trunk of the butternut is pierced in the month which precedes the unfolding of the leaves, a pretty copious discharge ensues of a slightly sugary sap, from which, by evaporation, a sugar is obtained of a quality but slightly inferior to that of maple sugar. An extract of butternut bark in water, or even a decoction sweetened with honey, is acknowledged to be a very excellent cathartic. Its purgative operation is stated to be always sure, and unattended, in the most delicate constitutions, with pain or irritation. On a live tree, the inner bark, when first exposed, is of a pure white; in a moment it changes to a beautiful lemon colour, and soon after to a deep brown. The bark of the butternut tree is very commonly used in the country for dying yellow, and many fine trees are annually destroyed by the recklessness of the back-woodsmen, who strip the bark from the trunk for this purpose.

"The butternut wood is light, of little strength, and of a reddish hue, but possesses the great advantage of lasting long, and of being secure from the ravages of worms; and it will long resist the effects of heat and moisture. On the Ohio, it is sawn into boards for the construction of small skiffs, which, on account of their lightness, are in request for river navigation. It is also used for the panels of coaches and carriages, for which it is found well adapted, not only from its lightness, but because it is not liable to split, and receives point in a superior manner. For corn shovels and wooden dishes, it is preferred to the red flowering maple, because it is lighter and less liable to split. Very considerable quantities of furniture are now made at Frederickton of butternut wood, which is becoming in great request for a variety of purposes. For wainscoting, and for fitting up libraries, it is well adapted, being easily worked, of a pleasing colour, and susceptible of a good polish, which throws out the graining, and shows the wood to advantage.

"*The Maples*, in general, are lofty and beautiful trees, deciduous, and sufficiently hardy; they grow quick, are easily transplanted, and bear cropping. The grass flourishes under their shade. They prefer a free, deep, and loamy soil; rich, rather than sterile, and neither wet nor very dry. The situation that suits them best is one that is sheltered and shady, rather than exposed. They are seldom found on the north side of lofty mountains, or on mountains at all, except among other trees; but on the plains they are found by themselves. The wood of the maples differs so widely in quality in different species, that it is difficult to characterise it by general observations. Maple wood speedily ferments and decays when exposed to the weather. It is liable to be injured by worms, and hence is unfit for building. It possesses, however, other qualities which in part compensate for these defects, and which render it useful in the arts, and in domestic economy.

"*White Maple*.—*Acer Ericarpum*. Trunk low, and divides itself into a great number of limbs, so divergent that they form a very spacious head. The leaves are opposite, and supported by long footstalks; they are divided by deep sinuses, into four lobes, and are toothed on the edges, of a bright green on the upper surface, and of a beautiful white beneath. The foliage is scattered, and leaves an open thoroughfare to the sunbeams. Wood, very white, and of a fine grain; but it is softer and lighter than that of any other species of the maple, and, from its want of strength and durability, is but little used. When dry, it weighs 38 pounds to a cubic foot, and in seasoning loses nearly half its weight. As it soon changes colour, it is not much used for cabinet work. The charcoal made from it is esteemed for yielding a strong uniform heat of long continuance. The sap of the white maple is in motion earlier in the spring than in the sugar maple. Like the red maple, it yields but half the product of the sugar maple from a given measure of sap, but the unrefined sugar is said to be whiter and more agreeable to the taste than that of the sugar maple. The inner bark of the white maple rapidly produces a black precipitate, with sulphate of iron.

"*Red-flowering Maple*.—*Acer Rubrum*.—Whether in flower or in foliage, the red maple, like its congeners, is a beautiful tree. It neither attains the size nor the height of the sugar maple. The blossoms, which are of a beautiful purple, or deep red, unfold more than a fortnight before the leaves. The

fruit is of the same hue with the flowers, though it varies in size and in the intensity of its colouring according to the exposure and the dampness of the soil. The extremities of this tree, which are formed by numerous twigs united at the base, have a remarkable appearance when garnished with flowers and seeds of a deep red, before vegetation has begun generally to revive.

"The wood, when dry, weighs forty-four pounds the cubic foot; when green, it is soft, full of aqueous matter, and loses in drying nearly one-half of its weight. It is harder than the wood of the white maple, and of a finer and closer grain; hence it is easily wrought in the lathe, and acquires by polishing a glossy and silken surface. In the United States the wood is principally employed for the lower part of Windsor chairs. It is also used for spinning-wheels and saddle-trees, and in the country is preferred for yokes, shovels, and wooden dishes.

"It sometimes happens in very old trees that the grain, instead of following a perpendicular direction, is undulated; and this variety bears the name of 'curled maple.' This singular arrangement, for which no cause has ever been assigned, is never witnessed in young trees, nor in the branches of such as exhibit it in the trunk. It is also less conspicuous at the centre than near the circumference. Trees offering this disposition are rare, and do not exist in the proportion of one to a hundred. The serpentine direction of the fibre, which renders it difficult to split and to work, produces, in the hands of a skilful mechanic, the most beautiful effects of light and shade. These effects are rendered more striking, if, after smoothing the surface of the wood with a double-ironed plane, it is rubbed with a little sulphuric acid, and afterwards anointed with linseed oil. On examining it attentively, the varying shades are found to be owing entirely to the inflection of the rays of light, which is more sensibly perceived on viewing it, in different directions, by candle-light.

"Before mahogany came into such general use, the wood of the red-flowering maple was much used for furniture; bedsteads are still made of it, which in richness and lustre excel the finest mahogany. It is now sawn into thin plates (veneers) which are used to inlay other woods, in articles of cabinet work, and the finishing of ships' cabins. The red-flowering maple never produces the variety known as 'bird's-eye maple'; that is confined exclusively to the sugar or rock maple. The inner bark of the red-flowering maple is of a dusky red. By boiling, it yields a purplish colour, which, on the addition of sulphate of iron, becomes a dark blue, approaching to black. It is used in the country, with a certain portion of alum in solution, for dyeing black. The wood of this maple is inferior to that of rock maple for fuel. The French Canadians call this tree *plaine*. They make sugar from its sap, but, as in white maple, the product of a given measure is only half as great as is obtained from the rock or sugar maple.

"*Sugar Maple*.—*Acer Saccharinum*.—This is the most interesting of the American maples, and is called rock maple, hard maple, and sugar maple. The first of these is most generally used; but Michaux used the last, as indicating one of the most valuable properties of the tree. The sugar maple frequently reaches the height of 70 or 80 feet, with a proportional diameter; but it does not commonly exceed 50 or 60 feet, with a diameter from 12 to 18 inches. Well-grown, thriving trees are beautiful in their appearance, and easily distinguished by the whiteness

of their bark. The natural *habitat* of the sugar maple is the steep and shady banks of rivers, and elevated situations, where the soil is cold and humid, free, deep, and fertile, and not surcharged with moisture.

"The leaves are about five inches broad, but they vary in length according to the age and vigour of the tree. They are opposite, attached by long footstalks, palmated, and equally divided into five lobes, entire at the edges, of a bright green above, and glaucous, or whitish underneath. In autumn, after the appearance of the first frost, their colour changes from green to all shades of red, from the deepest crimson to light orange. At first the leaves at the extremities of the branches alone change their colour, leaving the internal and more shaded parts still in their verdure, which gives to the tree the effect of great depth of shade, and displays advantageously the light, lively colouring of the sprays. Later in the season, when the tints become more and more gorgeous, and the full beams of the sunshine fall upon the large masses of foliage, the warm and glowing colours of the whole summit possess a great deal of grandeur, and add much to the beauty and effect of the landscape.

"Mr. McGregor, in his work on British America, speaking of the forests, says,—It is impossible to exaggerate the beauty of these forests; nothing under Heaven can be compared to its effulgent grandeur. Two or three frosty nights in the decline of autumn, transform the boundless verdure of a whole empire into every possible tint of brilliant scarlet, rich violet, every shade of blue and brown, vivid crimson, and glittering yellow. The stern, inexorable fir tribes, alone maintain their eternal sombre green; all others, on mountains or in valleys, burst into the most glorious vegetable beauty, and exhibit the most splendid and most enchanting panorama on earth."

"The wood of the sugar maple when first cut is white, but after being wrought, and exposed for some time to the light, it takes a rosy tinge. Its grain is fine and close, and when polished it has a silky lustre. It is very strong, and sufficiently heavy, but wants the property of durability; when exposed to moisture it soon decays, and is therefore neglected in civil and naval architecture. For many purposes, however, it is preferred to beech, birch, or elm; but it should be perfectly seasoned, which requires two or three years.

"The wood of the sugar maple grown in New Brunswick, when dry, weighs forty-six pounds to a cubic foot; that grown to the southward of New Brunswick weighs much less. It furnishes the best fuel in the province, and its ashes are rich in the alkaline principle. Four-fifths of the pot-ashes exported from Boston and New York to Europe, are made from this maple. The charcoal made from it is preferred to any other; it is one-fifth heavier than the coal made from the same species of wood in the middle and southern states, a fact which sufficiently evinces that the sugar maple acquires its characteristic properties in perfection only in a northern climate.

"There is a great resemblance in appearance between the wood of the red-flowering maple and that of the sugar maple; but the latter is easily distinguished by its weight and hardness. There is, besides, a very certain and simple test. A few drops of sulphate of iron (copperas) being poured on samples of the different species, the sugar maple turns greenish, and the white maple and red-flowering maple change to a deep blue.

"The sugar maple exhibits two accidental forms in the

arrangement of the fibre, of which cabinet-makers take advantage for making beautiful articles of furniture. The first consists in undulations, like those of the red-flowering maple, and is likewise known as "curled maple;" the second, which takes place only in old trees that are still sound, appears to rise from an inflexion of the fibre from the circumference toward the centre, producing spots of half a line in diameter, sometimes contiguous, and sometimes several lines apart. The more numerous the spots the more beautiful, and the more esteemed is the wood; this variety is called 'bird's-eye maple.' It is now beginning to be exported in very considerable quantities to the United Kingdom, where it brings a high price; and as its value is becoming more generally understood, it is to be hoped that hereafter it will not be so lavishly cut and wasted by the lumberers and back-woodsmen as has heretofore been the case.

"The ancients held the maple in great esteem; and tables inlaid with curious portions of it, or formed entirely of its finely-variegated wood, in some instances brought their weight in gold. To such a height did the fondness of the Romans for curious woods carry them at one period of their history, that their tables were even more expensive than the jewels of their ladies. Maple dishes are frequently mentioned by the Latin poets; and Cowper and many modern poets also mention bowls of maple as being used by shepherds and hermits. Virgil celebrates the maple as the throne of the 'good Evander,' and its branches as the canopy under which he received and seated Æneas:

"On sods of turf he sat the soldiers round;
A maple throne, raised higher from the ground,
Received the Trojan chief; and o'er the bed
A lion's shaggy hide for ornament they spread."

"Pliny gives an elaborate account of the uses and properties of maples; he enumerates ten different kinds which were known in his time.

"Besides the varieties of 'curled maple' and 'bird's-eye maple,' two other varieties occur in the woods or excrescences which grow on the trunk of the sugar maple. The most valuable of these is known by the name of 'variegated maple knob,' or '*loupe d'érable de couleurs variées*,' of the French. It presents an assemblage of shades agreeably disposed, sometimes resembling Arabic characters, which renders the wood exceedingly appropriate for fancy work, and, from its scarcity, it commands very high prices. The other variety, known by the name of 'silver white maple knob,' or '*loupe d'érable blanc argenté*,' of the French, exhibits a silvery lustre, and is highly prized for the same purposes as the preceding, although more common.

"The Indians of New Brunswick have been accustomed to make their dishes of these maple knobs from time immemorial, and they still continue to use them, for with ordinary care they last a very long time. Some of these rude dishes, when finished and polished by an experienced workman, are exquisitely beautiful, and worthy a place among the most rare and costly specimens of wood.

The extraction of sugar from the maple is a valuable resource in a country where all classes of society daily make use of tea and coffee. A cold and dry winter renders the trees more productive than a changeable and humid season. When frosty nights are followed by dry and warm days, the sap flows abundantly; and from three to five gallons are then yielded by a single tree in twenty-four hours. Three persons are found sufficient to attend 250 trees: each

tree of ordinary size yields, in a good season, twenty to thirty gallons of sap, from which five or six pounds of sugar are made; but the average quantity, in ordinary seasons, is about four pounds to each tree. Wild and domestic animals are immoderately fond of maple sap, and break into enclosures to sate themselves with it.

"*Moose Wood*—*Acer Striatum*.—The name of moose wood was given it by the first settlers, from observing that the moose subsisted, during the latter part of the winter and beginning of spring, upon its young twigs. Its ordinary height is ten feet, though individual trees are found more than twenty feet. The trunk and branches of the moose wood are clad in a smooth green bark, longitudinally marked with black stripes, by which it is easily distinguishable at all seasons of the year. The small size of the moose wood forbids its use in any kind of construction; but as it is white and fine grained, cabinet-makers sometimes employ it in forming the white lines with which they inlay mahogany. Its principal advantage to the inhabitants consists in furnishing them, at the close of winter, when their forage is exhausted, with a resource for sustaining their cattle, till the advancing season has renewed the herbage. As soon as the buds begin to swell, the famished horses and neat cattle are turned loose into the woods, to browse on the young shoots, which they consume with avidity. Poor as this resource may appear, it is not wholly inadequate, as the twigs are tender, and full of saccharine juice.

"*Mountain Maple*—*Acer Montanum*, seldom exceeds 15 feet in height, but it blooms at an elevation of 6 or 8 feet, and even less.

"*Flowery Dog Wood*—*Cornus Florida*, forms a tree, attaining a height of 30 to 35 feet, with a trunk of 9 or 10 inches in diameter; but in general it does not exceed one-half of these dimensions. The trunk is strong, and is covered with a blackish bark, chopped into small portions, which are often in the shape of squares, more or less exact. The branches are proportionally less numerous than on other trees, and regularly disposed nearly in the form of crosses. The leaves are oval, of a dark green above, and whitish beneath. Towards the close of summer they are often marked with black spots, and at the approach of winter they change to a blood red. The flowers, which appear in May, or early in June, while the leaves are only beginning to unfold themselves, are yellowish, and collected in bunches, which are surrounded with a very large involucre, composed of four large white floral leaves, sometimes inclining to violet. This fine involucre constitutes the chief beauty of the flowers, which are very numerous, and which, in their season, robe the tree in white, like a full-blown apple tree, and render it one of the fairest ornaments of the American forests.

"The berries, which are of a vivid glossy red, and of an oval shape, are always united. They remain upon the tree until the first autumnal frosts, when, notwithstanding their bitterness, they are devoured by the robin (*Turdus migratorius*) and other small birds.

"The wood is hard, compact, heavy, and fine-grained; it is susceptible of a brilliant polish. The sap-wood is perfectly white, and the heart-wood is of a chocolate colour. This tree is not large enough for works which require pieces of considerable size; it is used for the handles of light tools, such as mallets, chisels, and the like. In the United States some farmers select this wood for harrow teeth, for

the hames of horses' collars, and also for shoeing sled-runners; it is also used for the cogs of mill-wheels; but to whatever purpose it is applied, being liable to split, it should never be wrought until it is perfectly seasoned. The shoots, when three or four years old, are found suitable for the light hoops of small casks; and the divergent branches are used for the yokes which are put on the necks of swine, to prevent their breaking into enclosed fields. The arrows of the Indians were formerly made of dog wood, as were also the spears of the ancients, by whom this wood was held in high esteem. Virgil speaks of it—

"—*bona bello*
Cornus."

"The berries dye purple; the inner bark, which is extremely bitter, has proved an excellent substitute for the Peruvian bark. Dr. Walker, of Virginia, in an inaugural dissertation on the comparative virtues of the *Cornus florida*, *C. sericea*, and *Cinchona officinalis* of Linnaeus, after detailing a great number of experiments, remarks:—A summary recapitulation of these experiments shows, that the *Cornus florida*, *sericea*, and Peruvian bark, possess the same ingredients, that is, gum, mucilage, and extracts, which last contain the tannin and gallic acid, though in different proportions. The *florida* has most of the gum, mucilage, and extracts; the *sericea*, the next, which appears to be an intermediate between the *florida* and *cinchona*; while the latter possesses most of the resin. Their virtues appear similar and equal in their residence. The extract and resin possess all their active powers. The extract appears to possess all their tonic powers. The resin, when perfectly separated from the extract, appears to be purely stimulant; and probably the tonic powers of the extract are increased when combined with a portion of the resin, as in the spirituous tincture. The bark also may be substituted for galls in the manufacture of ink. From the bark of the more fibrous roots, the Indians obtain a good scarlet dye.

"Such are the profitable uses of this tree, which merits attention from the value of its wood, its useful properties, and especially from the beauty and brilliancy of its flowers, by which it is better adapted than almost any other of the North American trees, for the embellishment of extensive gardens and pleasure-grounds. In England it is cultivated solely as an ornamental shrub; but from its large white flowers, 'emulous of the purity of snow,' which finely contrast with the 'forest green,' it is said to deserve richly a place in every collection where it will thrive.

"*Canoe Birch*—*Betula Papyracea*.—By the French Canadians, this tree is called *Bouleau blanc*, white birch, and *Bouleau a canoe*, canoe birch. It is known in New Brunswick, also by these denominations, and sometimes by that of 'paper birch,' but that of 'canoe birch' has been deemed most proper, as indicating an important use made of the bark.

"To the inhabitants of these regions, the trees of this genus are highly interesting, and are applied by them, with wonderful ingenuity, to the necessities of life. They employ the wood in the construction of houses and of vessels, and in the works of the wheelwright and the cabinet-maker; of the bark, which is nearly incorruptible, they make boxes, canoes, and more secure covering for their habitations; with the leaves they dye their nets; and from the sap they procure a mild and sugary beverage.

"The canoe birch is most multiplied in the forests of North America, in that portion lying N. of the

43rd degree of latitude, and between longitude 75° W., and the Atlantic Ocean; this portion, though situated 10° further S., is said very nearly to resemble Sweden and the eastern part of Prussia, not only in the face of the country, but in the severity of the climate. Below the 43rd degree of N. latitude, the canoe birch is not found. It attains its largest size, which is about 70 feet in height, and 30 inches in diameter, on the declivity of hills and in the bottom of fertile valleys. Its branches are slender, flexible, and covered with a shining brown bark, dotted with white. The twigs are erect in young trees, but being very slender and pliant, are apt to become pendent in old ones; hence a very beautiful variety, nearly equal in gracefulness to the drooping elm.

"The heart, or perfect wood, when first laid open, is of a reddish hue, and the sapwood is perfectly white. It has a fine glossy grain, with a considerable share of strength; that it is little employed, is owing partly to its speedy decay when exposed to the succession of dryness and moisture, and partly to the existence in its vicinity of several species of wood, such as the maples, the beech, and even the yellow birch, which are far preferable for the uses of the joiner and the wheelwright.

"A section of the trunk of this tree, 1 or 2 feet in length, immediately below the first ramification, exhibits very elegant undulations of the fibre, representing bunches of feathers, or sheaves of corn. These pieces, divided into thin veneers, were formerly much used by cabinet-makers in the United States to embellish their work. The canoe birch affords tolerably good fuel, but is inferior to maple. On trees not exceeding 8 inches in diameter, the bark is of a brilliant white, like that of the white birch of Sweden, and like that, too, it is almost indestructible. Trees long since prostrated by time, are often met with in the forests, whose trunks appear sound, while the bark, which remains perfect, contains only a friable substance like vegetable mould. This bark, like that of the European species, is devoted to many uses. In New Brunswick, large pieces are placed beneath the shingles and clapboards to render the houses dryer and less penetrable to cold.

"The Indians make boxes, dishes, and a variety of ornamental articles, of birch bark; the boxes they ornament very neatly with stained porcupine quills; the ornamental articles for ladies are embroidered with coloured silks, or dyed moose hair. Their wigwams are always built of it, and they use it for water-vessels, drinking-cups, and an almost endless variety of purposes. They sometimes manage to boil water in this bark, when split very thin, and in that state they frequently use it as paper. But the most important use of this bark, and for which no other can be used, is in the construction of canoes. To procure a proper piece for making a canoe, the largest, straightest, and smoothest trunks are selected. After the tree is cut down, a circular incision is made as far up the trunk as the bark is good, that is, just below the branches. A very careful examination is then made to ascertain the best side of the bark, in order that the most perfect portion may form the bottom of the canoe; this being ascertained, a straight incision is made, from the circular incision to the butt of the tree. The edges of the bark are next raised with wedges, and much precaution used to prevent any portion flying off too suddenly, and spoiling the whole. When the edges of the bark are fully cleared from the trunk of the tree, the bark is relieved from the pressure which was kept on it until then, and the whole bark of

the trunk flies off at once. A piece thus obtained was 22 feet in length, 56 inches in width at one end, and 46 inches at the other. It was subsequently formed into a large canoe of the Millicet fashion. These canoes are stitched together with fibrous roots of the white spruce, about the size of a quill, which are deprived of the bark, split, and supplied in water. The gunwales and ribs are formed of white cedar (*Cupressus thyoides*), and the cross-bars of sugar maple; the seams are coated with white spruce gum. The paddles are made either of the red-flowering maple, or the sugar maple; but the latter is preferred.

"White Birch—*Betula Populifolia*, is most frequently found in places scantily furnished with trees, where the soil is dry and meagre; in these situations it commonly rises to the height of 20 or 25 feet, and is generally associated with the aspen or poplar. Single trees which grow accidentally in moist and sheltered places, expand to an ampler size, and are sometimes 40 feet in height, yet not more than 9 inches in diameter. It is less abundant than the other species of the birch tribe, and is rarely found in groups. It is commonly seen by the side of high-ways growing singly on burnt land, or sandy soils which have been exhausted by cultivation, or which are too poor to produce crops. The trunk is clad in a bark as white or whiter than that of the canoe-birch; but its outer bark, when separated from the inner bark, is incapable of being divided like that of the canoe-birch, into thin sheets, which constitutes a very essential and most important difference. The wood is very soft, brilliant when polished, and perfectly white. From its speedy decay, and the inferior size of the tree, it is not employed for any use except for fuel.

"Yellow Birch—*Betula Lutea*, abounds in New Brunswick; it is always found on cool and rich soils, with ash, hemlock, spruce, and black spruce. In these situations it attains its largest size, which is from 60 to 70 feet in height, and more than 2 feet in diameter. It is a beautiful tree; its trunk is nearly uniform in diameter, straight and destitute of branches for 30 or 40 feet. It is particularly remarkable for the colour and arrangement of its outer bark, which is of a brilliant golden yellow, and which frequently divides itself into very fine strips, rolled backwards at the ends, and attached in the middle. The young shoots and the leaves at their unfolding are downy. Towards the middle of summer, when fully expanded the leaves are perfectly smooth, except the foot-stalls which remains covered with a fine short hair. The leaves about 3½ inches long, 2½ inches broad, oval acuminate, and bordered with sharp and irregular teeth. The leaves, the bark, and the young shoots, have an agreeable taste, and similar to those of the black birch, though less sensible, which they lose in drying. The wood is inferior in quality and appearance to that of the black birch; it never assumes as deep a shade, but it is strong, and when well polished makes handsome furniture. It is found by experience to be every way proper for that part of the frame of vessels which always remains under water. It furnishes an excellent combustible. The young saplings are employed in New Brunswick almost exclusively for the hoops of casks. Brooms are made of the twigs, and the Indian women make brooms of the wood by splitting it up. The bark is valuable for tanning. Russian leather is prepared with empyreumatic oil from the bark of this tree, whence its peculiar odour. Yellow birch timber is exported to Europe in considerable quantities, but it is shipped

with black birch, and passes with that species indiscriminately under the general name of birch.

"*Black Birch—Betula Lenta.*—The agreeable foliage of the black birch, and the valuable properties of its wood, render it the most interesting of the American birches. In Canada it is called cherry birch; in New Brunswick it is always called black birch. It grows in preference in deep, loose, and cool soils; in these situations it obtains its greatest expansion, sometimes exceeding seventy feet in height, and three feet in diameter. Its vegetation is beautiful, and in a congenial soil its growth is rapid. It is stated in the "Annals of the Arts," that a tree of this species attained the height of forty-five feet in nineteen years. The black birch is one of the earliest trees to renew its foliage. The leaves, during a fortnight after their birth, are covered with a thick, silvery down, which disappears soon after. They are about two inches long, toothed, heart-shaped at the base, pointed at the summit, of a pleasing tint, and fine texture like the leaves of the cherry-tree. The young shoots are brown, smooth, and dotted with white, as are also the leaves. When bruised, the leaves diffuse a very sweet odour, and as they retain the property when dried and carefully preserved, they afford an agreeable infusion, with the addition of milk and sugar.

"The bark upon the trunk of trees less than eight inches in diameter, is smooth, grayish, and perfectly similar in colour and organisation to that of the cherry-tree. On old trees the outer bark is rough, and of a dusky gray colour: it detaches itself transversely at intervals, in hard, ligneous plates, six or eight inches broad. Michaux the younger calls this birch one of his favourite trees, and recommends it to the lovers of foreign vegetables, as eminently adapted by the beauty of its foliage and the agreeable colour of its leaves, to figure in the parks and gardens of Europe. He strongly recommends the inhabitants of the old world to introduce it into their forests; and particularly mentions the north of France, England, and Germany, as favourable to its growth, from the greater humidity of the climate.

"The wood when freshly cut is of a rosy hue, which deepens by exposure to the light. Its grain is fine and close, whence it is susceptible of a brilliant polish: it possesses also a considerable share of strength. The union of these properties render it superior to all other species of birch, whether European or American. The weight of a cubic foot of the wood of the black birch, when seasoned, is forty-five pounds. The specific gravity of water being estimated at 1,000, that of seasoned black birch wood is 720. When green, this wood floats with difficulty, and sinks after a time, unless supported by timber of a less specific gravity. When well seasoned (which can only be done thoroughly under water) it makes very strong and useful articles of furniture, for which it would be more generally used but for its constant tendency to warp. It is much used in New Brunswick in ship-building, for the keel and lower timbers of vessels; and as it is almost imperishable under water, it is well adapted for planking, piles, foundation timber, sluices, and, in general, for any purpose where it is constantly wet.

"Black birch wood is now exported in large quantities to the United Kingdom, in the form of squared timber, and sawn planks: the quantity of each is annually on the increase. It has been suggested by a gentleman well acquainted with the timber trade, that sawed birch staves might be made a profitable

article of export to Great Britain, for making herring barrels on the British coasts.

"The wood of this species of birch furnishes excellent fuel, second only to that of the sugar maple. The inner bark is full of tannin. The sap, drained by incision in March and April, makes excellent vinegar, and a pleasant weak wine may be obtained from it by boiling and fermentation.

"The alder is found everywhere in New Brunswick, frequently growing along the sides of brooks, and abounding still more in places covered with stagnant water. As the roots of the alder penetrate to a great distance, it contributes more effectually than most other trees to support the banks at the season of the overflowing of the waters.

"The ordinary dimensions of the common alder is about ten or twelve feet in height, and two or three inches in diameter. Its leaves are of a beautiful green, distinctly furrowed on the surface, and doubly toothed at the edge.

"The black alder is much larger than the common alder, being sometimes eighteen or twenty feet in height, and three or four inches in diameter. Its leaves are similar in shape, but are easily distinguishable by their different tint and superior size; they are of a pale bluish-green, and a third larger than those of the common alder. The bark of the trunk, and of the secondary branches, is smooth, glossy, and of a deep brown colour, sprinkled with white. Both species grow in cool, moist places, on the banks of rivulets and in swamps. As their trunks are generally straight, tapering gradually from base to summit, garnished with numerous branches, bending rather close around the stock, they grow in great numbers in a small space.

"The wood, when first laid open, is white, but it soon becomes reddish by contact with the air. The small size of both species mentioned, prevents their being of any very great use in the arts. The alder takes a better black than any other wood; when polished and varnished, it affords a good imitation of ebony. With sulphate of iron, the bark forms a black dye for colouring wool; it is sometimes used by hatters in the United States for dyeing hats. A cubic foot of alder wood, in a dry state, weighs from 34 to 50 pounds. It soon rots when exposed to the weather or to damp; but it is extremely durable in water or in wet ground.

"*Cherry.*—The trees of this genus are deciduous, with smooth serrated leaves, and white flowers. The two species which have been noticed in New Brunswick are more or less abundant, in proportion to the dryness and humidity of the soil, which are alike unpropitious. They stand less in need of shelter than any fruit-bearing tree whatever, and may often be employed on the margins of orchards, or for surrounding kitchen-gardens to form a screen against high winds. They are said to thrive best when unmixed with other trees, and they suffer grass to grow beneath their shade. According to experiments which have been made, it is stated that no tree of considerable size bears transplanting better than the wild cherry. As in the case of all large trees which have been removed, they suffer a check by the operation; but from this they generally recover in the course of two, or at most three, seasons. As a tree, one of its valuable properties is the food and protection which it affords to numerous species of birds. This is one reason why the cultivation of the wild cherry is so generally encouraged in the forests of Britain, of Belgium, and of France, as it not only increases the

number of birds by supplying them with nourishment, but is the means of destroying countless insects which these important and useful creatures devour. In all ornamental plantations, hedge-rows, and avenues, wild cherry-trees are desirable objects of culture on this account, as also for their hardihood, and the great beauty of their flowers and fruit, which are produced in the greatest profusion in their respective seasons of the year.

"In France the wild cherry-tree is highly prized for the food it supplies to the poor; and a law was passed, as long ago as 1669, commanding the preservation of all cherry-trees in the royal forests: in consequence of which they became so numerous, that there was no longer room for the underwood to grow; when, as usual, going to the other extreme, most of them were cut down. This measure, it was remarked, was a great calamity to the poor, who, during several months of the year, lived, either directly or indirectly, on the produce of the *merisier* or wild cherry-tree. Soup made of the dried fruit, with a little bread and butter, was the common nourishment of the woodcutters and charcoal-burners of the forest during the winter. This fruit is much used in Europe at present, to make jelly or *rob*, and in the manufacture of *liqueurs*, such as cherry-brandy and *rafafia*. *Kirschenwasser*, an ardent spirit much used in Germany and Switzerland, is also made of it; and the famous liqueur *Maraschino*, is the product of a small acid cherry that abounds in the north of Italy, at Trieste, and in Dalmatia.

"*Wild Cherry Tree*.—*Cerasus Virginiana*.—In New Brunswick seldom exceeds 30 or 40 feet in height, with a trunk 8 or 10 inches in diameter. Its bark is so peculiar as to render it distinguishable at first sight, when the form of the leaves cannot be discerned; it is blackish and rough, and detaches itself in narrow, semi-circular, hard, thick plates, which adhere for a time to the tree before dropping off; these are renewed after a considerable period.

"The trunk is usually straight for about one-fourth of its height, where it ramifies into a spreading summit of a handsome outline; but its foliage is too thin to display that massive richness which gives so much beauty to the maples, and many other trees. The leaves are usually about four inches long, toothed, very much pointed, and of a beautiful smooth, shining green, with two or more small reddish glands at the base. The flowers are white, and occur in spikes, which when fully expanded, have a fine effect. The fruit is about one-fourth of an inch in diameter, of a roundish form, purplish black colour, and edible, but slightly bitter to the taste. It arrives at maturity in August or September, when it affords great nourishment to several species of birds.

"There is a variety of the wild cherry tree known in New Brunswick as the 'choke-cherry,' which has been designated *Cerasus Virginiana præcox*. This variety differs from the species in having broadly-oval leaves, abruptly pointed, being sometimes sub-cordate at the base, very sharply, and often doubly-toothed, and generally hairy in the axils of the veins beneath.

"The petals are orbicular; the fruit sub-globose, of a glossy scarlet, red when ripe, sweet and pleasant, but so very astringent that it dries the mouth and throat like the juice of spruce cones when swallowed. It usually ripens its fruit several weeks earlier than the species of which it is a variety, and hence the name *præcox*.

"The wood is of a dull, light, red tint which deepens with age. It is compact, fine-grained, takes a

brilliant polish, and, when perfectly seasoned, is not liable to warp. In the United States, where this tree grows to a very large size, it is extensively used by cabinet-makers for almost every species of furniture; and, when chosen near the ramification of the trunk, it rivals mahogany in beauty. The bark of the branches and of the roots is there collected by herb-vendors, and brought to market in pieces or fragments. The bark of the root is regarded as the best, is destitute of epidermis or outer bark, of a reddish-brown colour, brittle, easily pulverised, and presents, when broken, a grayish surface. When fresh, the odour is prussic, which is lost in a measure in drying, but regained by maceration; the taste is aromatic, prussic, and bitter. It is stated, undoubtedly, to be a useful tonic, and to possess, in some degree, narcotic and anti-spasmodic properties.

"The fruit is employed in New Brunswick to make a cordial, by infusion in rum or brandy, with the addition of sugar; and, when carefully made with brandy, it is superior to the *Kirschenwasser* imported from Copenhagen.

"*Northern Cherry Tree*.—*Cerasus Borealis*.—A handsome small tree, growing to a height of 20 or 30 feet, with a trunk 6 or 8 inches in diameter, and covered with a smooth brownish bark, which detaches itself laterally. Its leaves are from 3 to 5 inches long, oval, toothed, and very sharp pointed. The flowers put forth in May or June, and occur in small white bunches, which give birth to a small, red, intensely-acid fruit, which arrives at maturity in August. The fruit is not very abundant even on the largest trees.

This tree, like the canoe birch, is said to offer the same remarkable peculiarity of reproducing itself spontaneously, in old cultivated fields, or such parts of the forest as have been burnt over. Of all the trees of North America no one is so nearly allied to the common cherry (*Cerasus vulgaris*) as the present species, and hence it has been recommended as a suitable stock to graft that cherry upon. The wood is exceedingly hard, fine-grained, and of a reddish hue, but the inferior size of the tree forbids its use in the mechanical arts.

"*Poplar*.—At present only two species of trees of this genus have been recognised in New Brunswick. The wood of the European aspen lasts long exposed to the weather, and most poplars are said to be very durable in a dry state, agreeably to the English woodman's adage—

"Cover me well, to keep me dry,
And heart of oak I do defy."

"The wood of most of the species is described as making very good flooring for bed-rooms, and places where there is not much wear, and it has the advantage of not catching fire readily; or, as Evelyn, has it, 'The poplar burns untowardly, and rather moulders away, than maintains any solid heat.' The wood of the Lombardy poplar is recommended for cheese-rooms and farm-houses in general, because neither mice nor mites will attack it.

Balsam Poplar.—*Populus Balsamifera*, best known in New Brunswick by the name of 'Balm of Gilead,' on the rich alluvial lands on the borders of the River St. John, above Fredericton, and along the valley of the Tobique. The largest of the trees of the species reach the height of 80 feet, and are upwards of 2 feet in diameter.

"In the spring, when the buds begin to develop they are abundantly coated with a yellowish glutinous

substance, of a very agreeable smell, and though this exudation diminishes at the approach of summer, the buds retain a strong balsamic odour. This odour is very much admired; and as this species of poplar grows very rapidly, and is easily transplanted, or propagated from cuttings, it is much in request as an ornamental tree. It will grow in all soils, but worst in clay; it impoverishes the land, destroys the grass, and the numerous shoots of the roots spread so near the surface of the earth, that they permit nothing else to grow, but rise in all quarters whether they are wanted or not.

"Hitherto the wood of the balsam poplar has not been brought into very profitable use. It is extremely light, white, smooth, woolly, and soft; and there are, no doubt, many purposes for which it might be advantageously employed.

"*American Aspen*.—*Populus Tremuloides*.—The ordinary height of the smaller species of poplar is about thirty feet, and its diameter five or six inches. The larger variety (which has been described as a distinct species, by the designation of *P. grandidentata*, but is believed to be only a variety of this species) grows to the height of fifty or sixty feet, and the diameter of eighteen inches or more; it flourishes as well on the border of swamps as on uplands. The straight trunk of the aspen is covered with a smooth greenish bark, which is rarely cracked, except on the base of the oldest trees, where it becomes furrowed. The catkins which spring from the extremity of the branches are composed of silky plumes, and of an oval form, somewhat more than an inch in length. The leaves are about two inches broad, narrowed at the summit, and supported by long footstalks. On stocks, seven or eight feet in height they are nearly round, and are bordered with obtuse, irregular teeth; on young shoots they are of twice the size mentioned, heart-shaped, and pointed at the summit. Of all the poplars of America this species has the most tremulous leaves; the gentlest air suffices to throw them into agitation.

"The wood of the smaller variety of the American aspen is light, soft, destitute of strength, and of little utility. It is felled only to disencumber lands, which are being cleared for cultivation. As the wood may be divided into very thin laminae, it is sometimes used for the manufacture of ladies' and children's bonnets and light summer-hats, which are very pretty when new, but not very durable. There is great superiority in the wood of the larger variety of this species of poplar over that of the smaller variety. It is white, fine, and strong; it gives a firmer hold to nails, and is not liable to warp or split. The largest and best specimens of this beautiful wood is used for the ornamental work of ships' cabins, in conjunction with birds-eye maple. It has a very silky lustre, and, when varnished and polished, bears a very close resemblance to satin wood, to which it is very little, if at all inferior, for ornamental purposes. The weight of a cubic foot of the large variety from Miramichi has been found to be twenty-six pounds.

"The Acadian French inhabitants of the northern coast of New Brunswick, use the wood for their *subots*, or wooden shoes, and also for bowls, trays, and a variety of purposes in domestic economy. The superior size of this poplar renders it easily recognised when met with in the forest by the woodman; and its timber should be preserved, not only for its beauty, but for the variety of useful and ornamental purposes to which it may be applied. The bark of the aspen is the principal food of beavers, who cut

down the smaller trees, as well to procure food, as to build with them their singularly ingenious dams for creating artificial ponds.

"*BEECH*.—In North America, as in Europe, the beech is one of the most majestic trees of the forest. Beech, says White, of Selborne, is one of the most grand and lovely of all the forest trees, whether we consider its stately trunk, its smooth silvery rind, its glossy foliage, or graceful spreading pendulous branches. No tree, says another writer, is more beautiful when standing singly in parks, or ornamental grounds, as it throws out its branches very regularly, and feathers almost to the ground. In woods or groves it grows clear of branches to a considerable height. Virgil was right in choosing the beech for its shade, for no tree forms so complete a roof; but no verdure is found under its shade. The beech is most pleasing in its juvenile state. A light airy young tree, with its spiry branches hanging in easy forms, is often beautiful.

"*White Beech*.—*Fagus Sylvestris*, is more slender and less brachy than the red beech; but its foliage is superb, and its general appearance magnificent. The leaves are oval, pointed, smooth, shining, and bordered, in the spring, with soft, hairy down. The sexes are borne by different branches on the same tree; the barren flowers are collected in pendulous, globular heads, and the others are small and of a greenish hue. The fruit is in an erect capsule, covered with loose, flexible spires, which divides itself at maturity into four parts, and gives liberty to two triangular seeds. The bark upon the trunk of the beeches is thick, gray, and, on the oldest stocks, smooth and entire. The perfect wood of this species bears a small proportion to the sapwood, and frequently occupies only 3 inches in a trunk 18 inches in diameter. The specific name of "white beech" is derived from the colour of its alburnum or sapwood. The wood of this species is of very little value except for fuel. In Ohio, the bark of the white beech is used for tanning, and the leather made with it is said to be white and serviceable, and inferior only to that prepared with oak bark.

"*Red Beech*.—*Fagus Ferruginea*.—This species of beech is almost exclusively confined to the north-eastern parts of the United States, and the provinces of Canada, New Brunswick, Nova Scotia, and Prince Edward Island. In some parts of New Brunswick, and generally in Prince Edward Island, it is so abundant as to constitute extensive forests, the finest trees growing on fertile, level, or gently sloping lands, which are proper for the culture of grain. Its name is derived from the colour of its wood, and not from its leaves. The red beech equals the white beech in diameter, but not in height; and, as it ramifies nearer the earth, and is more numerous divided, it has a more massive summit, and the appearance of more tufted foliage. Its leaves are equally brilliant with those of the white beech, a little larger and thicker. They become a pale yellow in the autumn, and they frequently remain on the tree during the winter, retaining that colour. The fruit is of the same form as that of the white beech, but is only half as large, and is garnished with firmer and less numerous points. To these differences must be added an important one in the wood. A red beech, 15 or 18 inches in diameter, has not more than 3 or 4 inches of sapwood; while a white beech, of the same size, has 13 or 14 inches of sapwood, and very little heart of any value. The wood is stronger, tougher, and more compact than the white, and it bears a very strict analogy to

the European beech. When perfectly seasoned, it is not liable to warp; and a cubic foot of it then weighs from 43 to 53 pounds.

"Representing the strength of oak by 100, that of beech will be 103; representing the stiffness of oak by 100, that of beech will be 77; representing the toughness of oak by 100, that of beech will be 138. Hence it appears that the oak is superior in stiffness, but neither so strong nor tough. Before iron rails were introduced, much beech was used for railways for the collieries about Newcastle. The red beech is very durable when preserved from humidity, and incorruptible when constantly in the water; but it rapidly decays when exposed to the alternations of dryness and moisture. It is much esteemed in naval architecture for those parts of vessels which are constantly wet, and it is much used in Prince Edward Island. An old and experienced English ship-builder, residing at Richmond Bay, in Prince Edward Island, assured the writer that, on the lower part of vessels, he had known the red beech wood of the island sound at the end of 40 years; in such situations he considered it fully equal to English oak in strength and durability. The wood of the red beech is much esteemed for fuel, and its ashes afford good pot-ash. It serves for shoe-last, tool-handles, planes, and mallets; and sometimes chairs, bedsteads, and other articles of furniture are made of it.

"Sheep and goats eat the leaves of the beech. When gathered in autumn, before they are much injured by frost, the leaves, on account of their elastic quality, make better *pillows* than either straw or chaff, and they last seven or eight years. The nuts of the red beech are produced every second year. They are of a triangular form, with a smooth tough skin, and a fine interior pellicle adhering to the kernel. They are united in pairs, in capsules garnished with points, from which they escape about the 1st of October, the season of their maturity. In France and Germany an oil is extracted from the beech-nut, next in fineness to that of the olive, and which may be preserved longer than any other oil. But they seem to yield little oil in northern countries. Linnaeus says that, in Sweden, very little oil can be expressed from them, and the attempt has not yet been made in New Brunswick. Hogs fatten rapidly on beech-nuts, but the pork is not esteemed; bears, partridges, squirrels, and mice, feed on them largely. In Belgium very solid and elegant hedges are made with young beeches, placed 7 or 8 inches apart, and bent in opposite directions, so as to cross each other and form a trellis, with apertures 5 or 6 inches in diameter. During the first year they are bound with osier at the points of intersection, where they finally become grafted and grow together. As the beech does not suffer in pruning, and sprouts less luxuriantly than most other trees, it is perfectly adapted to this object.

"*American Hornbeam*—*Carpinus Americana*.—Ordinary stature from 12 to 15 feet, but it sometimes reaches 25 or 30 feet in height, and 6 inches in diameter. The trunk of the American hornbeam, like that of the analogous species in Europe, is obliquely and irregularly fluted, frequently through all its length. By its form, and by the appearance of its bark, which is smooth and spotted with white, it is easily distinguished when the leaves are fallen. It sheds its leaves in autumn, about the same time with the elm. During the time of its verdure it makes a good appearance, being well clothed with leaves, which are oval, pointed, finely denticulated, and of a deep,

strong, green colour. Cattle eat the leaves, but no pasture grows under its shade; it is easily transplanted, and bears lopping. The fructification is always abundant, and the aments remain attached to the tree long after the foliage is shed.

"The wood, like that of the European hornbeam, is white, and exceedingly compact and fine-grained. It is in great request among the farmers for axe handles, and for agricultural implements, or for such parts of them as require great strength. Coggs for mill-wheels are made of the wood, and are accounted superior to those made of the wood of the sugar maple, which is generally used for that purpose. In Scandinavia, the inner bark of the hornbeam is used to dye yellow; and the Indians of America use it occasionally for a similar purpose.

"*Iron Wood*—*Carpinus Ostrya* nowhere forms masses even of inconsiderable extent, but is loosely disseminated, and found only in cool, fertile, and shaded situations. It rarely reaches thirty-five feet in height, and twelve inches in diameter, and commonly does not exceed half these dimensions. In the winter, this tree is recognised by a smooth grayish bark, finely divided, and detached in strips not more than a line in breadth. The leaves are alternate, oval-acuminate, and finely and unequally denticulated. The fertile and barren flowers are borne at the extremity of different branches of the same tree, and the fruit is in clusters like hops, whence the specific name *ostrya*. The small, hard, triangular seed, is contained in a species of reddish, oval, inflated bladder, covered at maturity with a fine down, which causes a violent irritation of the skin if carelessly handled. The concentric circles of the wood are closely compressed, and their number, in a trunk of only four or five inches in diameter, evinces the length of time necessary to acquire this inconsiderable size. The Canadian-French call iron wood, *bois dur*, hard wood.

"The wood is perfectly white, compact, fine-grained, and heavy. To its inferior dimensions must be ascribed the limited use of a tree, the superior properties of whose wood are attested by its name. It is exceedingly valuable for all purposes to which its small size will permit it to be applied. Near New York brooms and scrubbing-brushes are made of iron wood, by shredding the end of a stick of suitable dimensions.

"Ash is a very rapid growing tree, and its wood differs more from difference of soil and situation than that of any other tree. The wood of ash soon rots when exposed either to damp or alternate dryness and moisture, but is tolerably durable in a dry situation. It is said that the best season for felling ash is from November to February; and that when felled in full sap, it is very subject to the worm. In such case, the wood is said to be much benefited by water seasoning. It is very much esteemed for its toughness and elasticity; and in consequence of these properties, it is useful whenever sudden shocks are to be sustained, as in various parts of machines, wheel-carriages, implements of husbandry, ship-blocks, tools, and the like. It has been found as useful in the arts of war as in those of peace, in ancient as well as in modern times:—

"From Pelion's cloudy top, an ash entire
Old Chiron fell'd, and shap'd it for his sire."
Pope's *Homer*.

"The wood is too flexible for the timber of buildings, and not sufficiently durable. Its texture is alternately compact and porous, the compact side of

the annual ring being the lighter coloured, which renders the annual rings very distinct. The drip of the ash is said to be very unfavourable to all other vegetable productions. It exhausts the soil very much; the roots spread widely near the surface.

"*White Ash*—*Fraxinus Americana*, is an interesting tree from the qualities of its wood, the rapidity of its growth, and the beauty of its foliage. It abounds in New Brunswick; a cold climate seems most congenial to its nature. The bark is of a white colour; on large stocks the bark is deeply furrowed, and divided into small squares, one to three inches in diameter.

"The most favourable situations for white ash are the banks of rivers, and the edges and surrounding acclivities of swamps, where the soil is deep and fertile. In such situations, it sometimes attains the height of 50 or 60 feet, with a diameter of 18 inches or more. The trunk is perfectly straight, and often undivided to the height of more than 30 feet.

"The leaves of the white ash are opposite, and composed of 3 or 4 pairs of leaflets, surmounted by an odd one. The leaflets, which are borne by short footstalks, are 3 or 4 inches long, about 2 inches broad, oval, pointed, rarely denticulated, of a delicate texture, and an undulated surface. Early in the spring, they are covered with a light down, of a pale green colour above and whitish beneath. As the contrast of colour between the surfaces is remarkable, and is peculiar to the species, Dr. Mecklenberg has denominated it *Fraxinus discolor*.

"The shoots of the two preceding years are of a bluish-gray colour, and perfectly smooth; the distance between their buds sufficiently proves the vigour of their growth.

"White ash is almost always accompanied by white elm, yellow birch, white maple, and hemlock and black spruce. The wood in young, thrifty trees, is very white, from the bark to the centre; but in large, old trees, the heart-wood is of a reddish tinge, and the sap-wood white. The weight of a cubic foot of this wood, when dry, varies from 34 to 52 lbs.; when the weight of a cubic foot is lower than 45 lbs., the wood is that of an old tree, and will be found deficient both in strength and toughness. Representing the strength of oak by 100, that of ash is 119; representing the stiffness of oak by 100, that of ash is 89; representing the toughness of oak by 100, that of ash is 160. The ash, therefore, exceeds both in strength and toughness, and in young wood the difference is still more considerable.

"The wood of the white ash is highly esteemed for its strength, suppleness, and elasticity. It is superior to every other wood for oars, and second only to hickory for hand-picks. Besides its use by carriage and sleigh-makers, it is in very general use for agricultural implements and domestic wares, especially for the handles of spades, hoes, shovels, forks, rakes, and scythes. Cattle eat the leaves of ash greedily, but they are said to give a bad flavour to the butter.

"*Black Ash*—*Fraxinus Stanburiana* is generally known by the name of 'swamp ash' in the United States it is called 'water ash.' It requires a moist soil, exposed to longer inundations than the white ash, and is usually accompanied by the red-flowering maple, yellow birch, black spruce, and white cedar. It does not often exceed 40 feet in height, or 12 inches in diameter.

"The buds of the black ash are of a deep blue, and the young shoots of a bright green, sprinkled with dots of the same colour, which disappear as the sea-

son advances. The leaflets are of a deep green colour, smooth on the upper surface, and coated with red down upon the main ribs beneath; when bruised they emit an odour like that of elder leaves.

"The black ash is easily distinguished from the white by its bark, which is of a duller hue, less deeply furrowed, and has the layers of the epidermis applied in broad sheets. It is among the last trees which put forth in spring, and the earliest that lose their leaves in autumn. The very first frost that comes, not only causes its leaves to fade and become yellow like those of other trees, but blackens and shrivels them up, so that they fall in showers with the least breath of wind. The perfect wood is of a brown complexion and fine texture; it is more elastic than that of the white ash, but it is neither so strong nor so durable. It is a wood, therefore, not greatly in request. As it may be separated into thin, narrow strips, it is much used by the Indians for the manufacture of baskets. In the country these strips are also used for chair-bottoms.

"The black ash is liable to be disfigured with knots, which are sometimes of a considerable size, and are detached from the body of the tree to make bowls and ornamental articles of turnery. The wood of these excrescences has the advantage of superior solidity, and, when carefully polished, exhibits singular undulations of the fibre. Dishes made of these knots, may be seen in most of the Indian wigwams (especially in remote situations), which have been used for a great number of years, and are highly prized. The ashes of the wood of the black ash are said to be rich in alkali.

"*Willow*.—Many species of willow are found in the colonies, the greater part of which are susceptible of no useful employment. The three species here mentioned are distinguished only by their superior height, but they are all greatly inferior to European willow, in the size and properties of their wood. 1. *Black Willow*—*Salix nigra*; 2. *Champlain Willow*—*Salix ligustrina*; 3. *Shining Willow*—*Salix lucida*.

"The first of these three species (*Salix nigra*) is the most common of the American willows, and the most analogous to that of Europe. It rarely attains a greater height than 30 or 35 feet, and a diameter of 12 to 15 inches. It divides at a small height into several divergent, but not pendant limbs, and forms a spacious summit. The leaves are long, narrow, finely denticulated, of a light green, and destitute of stipule. In the uniformity of its colouring, the foliage differs from that of the European willow, the lower surface of which is whitish. Upon the trunk the bark is grayish, and finely chapt. Upon the roots, it is of a dark brown, whence may have been derived the specific name of the tree.

"The champlain willow (*Salix ligustrina*) is about 25 feet high, and 7 or 8 inches in diameter. Its first aspect resembles that of the black willow, but its leaves are longer, and accompanied at the base by stipule.

"The shining willow (*Salix lucida*) is best known in New Brunswick by the name of 'red willow,' from the brilliant red colour of the bark on the young shoots. It is found in moist but open grounds, and is more common on the edges of meadows and on the banks of streams than in the interior of the forests. The shining willow attains the height of 18 or 20 feet, but its ordinary elevation is 9 or 10 feet. The wood is white and soft, and the branches of each species are easily broken from the tree. Neither the wood nor the twigs are applied to any useful purpose.

"The long slender branches of the shining or red willow are sometimes used for baskets, for which, however, they are rather brittle, and are therefore of little value. The Melicete Indians scrape the bark from the young twigs, and when dry, mix it with their tobacco for smoking; they are very partial to the admixture, the odour of which is much more agreeable than that of pure tobacco.

"The roots of the black willow afford an intensely bitter decoction, which is considered in the country as a purifier of the blood, and as a preventative, and a remedy for intermittent fever.

"ELM.—There are two well-defined species of elm in New Brunswick, known as the white elm and red elm. A third species is supposed to exist, but it is not yet fully determined whether it is merely a variety of the white elm, or a distinct species. Every variety of elm is beautiful, and well adapted to make shady walks, as it does not destroy the grass; and its leaves are acceptable to cows, horses, goats, sheep, and swine. Silkworms are said to devour the tender leaves of elm with great avidity. Many insects feed upon the leaves, particularly the *Cicada ulmi* and *Aphis ulmi*; the latter generally curl the leaves, so as to make them a secure shelter against the weather. The bark of elm, dried and ground to powder, has been mixed with meal in Norway to make bread in times of scarcity. The flowers have a violet smell.

"*White Elm*.—*Ulmus Americanus* is found over an extensive tract of the North American continent, but it appears to be the most multiplied and to attain the loftiest height between the 42nd and 47th degrees of north latitude. It delights in low, humid, substantial soils, along the banks of rivers or streams, or on the borders of swamps where the soil is deep and fertile. It will grow, however, on any soil that is not too dry and barren, and in any situation within its natural limits, how much soever exposed. In New Brunswick the white elm stretches to a great height. In clearing the primitive forests a few stocks are sometimes left standing; and insulated in this manner, the tree appears in all its majesty, towering to the height of eighty or one hundred feet, with a trunk three or even four feet in diameter, regularly shaped, naked, and insensibly diminishing to the height of sixty or seventy feet, where it divides itself into two or three primary limbs. These limbs, not widely divergent near the base, approach and cross each other eight or ten feet higher, and diffuse on all sides, long, flexible, pendulous branches, bending into regular arches, and floating lightly in the air, giving to the tree a broad and somewhat flat-topped summit, of regular proportions and admirable beauty. When growing thus insulated, this tree is often marked by two or more small branches four or five feet in length, proceeding from near the first ramification, and descending along the trunk; and the larger branches or limbs, as also the trunk, are sometimes covered with little ragged twigs, as if clothed with tufts of hair. The bark of the white elm is light-coloured, tender, and very deeply furrowed. The leaves are four or five inches long, borne by short footstalks, alternate, unequal at the base, oval, pointed, and doubly denticulated. They are generally smaller than those of the red elm, of a thinner texture, and a smoother surface, with more regular and prominent ribs. This species differs, also, essentially from the red elm and European elm in its flowers and seeds. The flowers appear before the leaves, and are very small, of a purple colour, supported by short, slender footstalks, and united in

bunches at the extremity of the branches. In 1846, the white elm was noticed in flower, at Hampton Ferry, so early as the 20th of April; there was then no appearance of leaves.

"In autumn the bright golden foliage of the elm kindly mixes with the various hues of the poplar and the maples, which display all shades of red, and from the deepest crimson to the brightest orange. Its tints then contrast agreeably with the pale-yellow, sober foliage of the birch and the beech, with the different shades of brown on the bass wood and the ash, or with the buff-yellow of the larch. At that season, even the gloomy blackness of the resiniferous trees, by throwing forward the gayer tints, is not without its effect.

"The quality of the wood depends, in a singular degree, on the situation in which it grows. The rich 'intervalles' already mentioned are necessary to its perfection; but when grown in open situations, where it is vexed by the winds and exposed to all the influences of the seasons it is still firmer and more solid. The wood has less strength than the oak, and less elasticity than the ash, but it is tougher and is less liable to split. It is said to bear the driving of bolts and nails better than any other timber. The wood is of a light brown colour, and is liable to decay when exposed to the alternations of dryness and moisture. It must be either wet or dry, in extreme; accordingly, it is proper for water-works, mills, pumps, aqueducts, and ship-planks beneath the water-line. It makes excellent piles and planking for wet foundations. The piles on which London bridge stands are chiefly of elm, and have remained six centuries without material decay; and several other instances of its durability in water have been noticed. When perfectly dry, the wood of the white elm weighs only thirty-three pounds the cubic foot. If cut transversely, or obliquely to the longitudinal fibres, it exhibits numerous and fine undulations, which are very beautiful when polished. The wood is an excellent combustible, and its ashes yield a large proportion of alkali.

"The bark of the white elm is said to be easily detached during eight months of the year; soaked in water, and supplied by pounding, it is sometimes used for making ropes and for the bottoms of chairs. In France the wood of elm is usually employed for mounting artillery, and for this purpose it is selected with the greatest care. The trees are cut to the proper dimensions, and the pieces are stored under shelter to dry during six or seven years; the precaution is even observed of turning them every six months, that the seasoning may proceed more uniformly. When fully seasoned, the wood is highly esteemed for the carriages of cannon, and for the gunwales and blocks of ships.

"*Red Elm*.—*Ulmus Rubra*.—This species of elm bears the names of red elm, slippery elm, and moose elm, but the first is most common. The Canadian French call it *orme gras*. The red elm is less multiplied than the white, and the two species are rarely found together, as the red elm requires a substantial soil free from moisture, and even delights in elevated and open situations, such as the steep banks of rivers. This tree is 50 or 60 feet high, and 15 or 20 inches in diameter. In the winter it is distinguished from the white elm by its buds, which are larger and rounder, and which, a fortnight before their development, are covered with a russet down. The flowers are aggregated at the extremity of the young shoots. The scales which surround the bunches of flowers are

downy like the buds. The leaves are oval, pointed, doubly denticulated, and larger, thicker, and rougher than those of the white elm. The bark upon the trunk is of a brown colour.

"The heart-wood is less compact than that of the white elm, coarse-grained, and of a dull red tinge. It has been remarked, that the wood, even in branches of 1 or 2 inches in diameter, consists principally of perfect wood. It is said to be stronger, more durable when exposed to the weather, and of a better quality than the wood of the white elm, although coarser in the grain. In the United States it is accounted the best wood for blocks, and its scarcity is the only cause of its limited consumption.

"*American Lime, or Bass Wood—Tilia.*—Although several species of the lime-tree are found in North America, yet but one species flourishes in New Brunswick, which is usually called bass wood. It is generally found associated with sugar maple and white elm.

"*Bass Wood—Tilia Americana*, is sometimes more than 80 feet high, and 4 feet in diameter; and its straight uniform trunk, crowned with an ample and tufted summit, forms a beautiful tree. The leaves are alternate, large, nearly round, finely denticulated, heart-shaped at the base, and abruptly terminated in a point at the summit. The trunk is covered with a very thick bark; the inner bark, separated from the outer, and macerated in water, is formed into ropes, and also the broad plaited bands used by the Indians for carrying their burthens. They formerly made their fishing lines and nets of this bark. The name bass wood is supposed to be a corruption from *bast*, which is applied to the European lime-tree by the rustics of Lincolnshire, because ropes were made from the bark.

"The twigs and buds of the bass wood tree are very glutinous when chewed, and afford considerable nutriment. In severe winters, when fodder is scarce, the farmers in Maine and Vermont, and sometimes in New Brunswick, drive their cattle into the woods of a morning, and fell a bass wood or other tree, on which they eagerly browse during the day. In winter this tree is easily recognised by the robust appearance of the trunk and branches, and by the dark brown of the colour on the shoots.

"In newly-cleared lands the stumps of the bass wood are distinguished by the numerous sprouts which cover them, whose growth can only be prevented by stripping off the bark, or by fire. The stumps of other large trees, the elm, sugar maple, and ash, left at the same height of 3 feet, do not produce shoots. The wood, when dry, weighs 35 pounds to a cubic foot. It is very white when green, but becomes of a light brown hue when seasoned. It is soft, easily worked, and is used for the panels of carriage bodies, seats of chairs, and the fans of fanning-mills. The wood is useless as fuel, being too full of sap when green, and of but little value when dry."

The following Table may be used for finding the *ultimate* transverse strength of any rectangular beam of timber:—

Rule.—When the beam is *fixed* at one end, and loaded at the other, the weight in pounds which it will support before breaking, will be obtained by multiplying the number opposite the kind of timber in the third column of the above table, by

the breadth and square of the depth of the beam both in inches, and dividing the product by the length, also in inches.

Table of the specific gravity, weight of a cubic foot, and relative transverse strength of different kinds of wood.

Names of Materials.	Specific Gravity.	Weight of 1 cubic foot in lbs.	Transverse Strength.
Ash (English)	0.72	45.	1,500
Ash (American)	0.64	40	1,800
Ash (American Black)	0.54	33.7	861
Ash (American Swamp)	0.92	57.5	1,165
Beech (English)	0.77	48.2	1,556
Beech (American Red)	0.78	48.7	1,720
Beech (American White)	0.71	44.4	1,380
Birch (English common)	0.71	44.4	1,820
Birch (American Black)	0.67	41.9	2,000
Birch (American White)	0.65	40.6	1,604
Birch (American Yellow)	0.76	47.5	1,335
Cedar (Bermuda)	0.75	46.8	1,443
Cedar of Lebanon	0.33	20.6	1,493
Cedar (Canadian)	0.80	50.0	—
Cedar (American White)	0.36	22.5	766
Elm (English)	0.59	36.9	1,013
Elm (Canada Rock)	0.72	45.0	1,970
Fir (Mar Forest)	0.69	43.1	1,232
Fir (New England)	0.55	34.4	1,102
Hickory (American)	0.83	51.9	2,020
Hickory (American Bitternut)	0.87	54.4	1,465
Iron-wood (Canada)	0.88	55.0	1,800
Larch (Scotch)	0.60	37.5	1,200
Larch (American Tamarack)	0.44	27.5	911
Mahogany (Nassau)	0.81	50.6	1,750
Mahogany (Honduras)	0.53	33.1	1,503
Greenheart (Demerara)	0.98	61.2	2,600
Maple (soft, Canada)	0.68	42.5	1,694
Maple (Rock American)	0.75	46.8	700
Oak (English)	0.84	52.5	1,700
Oak (American White)	0.78	48.7	1,740
Oak (American Red)	0.95	59.4	1,672
Pine (Red)	0.66	41.2	1,500
Pine (American Yellow)	0.46	28.8	1,300
Pine (American White)	0.43	26.9	1,160
Pine (American Pitch)	0.70	43.8	1,700
Spruce	0.50	31.4	1,346
Spruce (American Black)	0.77	48.2	1,036

Note 1. When the beam is *fixed* at one end and loaded uniformly throughout, the result obtained by the rule must be doubled. *Note 2.* When the beam is *fixed* at both ends and loaded in the middle, the result obtained by the rule must be multiplied by 6. *Note 3.* When the beam is *fixed* at both ends and loaded uniformly throughout, the result obtained by the rule must be multiplied by 12. *Note 4.* When the beam is *supported* at both ends and loaded in the middle, the result obtained by the rule must be quadrupled. *Note 5.* When the beam is *supported* at both ends and loaded uniformly throughout, the result obtained by the rule must be multiplied by 8. N.B.—Two-thirds of the foregoing results are reckoned fully sufficient for a permanent load.

CHAPTER III.

POPULATION, GOVERNMENT, RELIGION, EDUCATION, CRIME, AND INSTITUTIONS.

WHEN New Brunswick was first known to Europeans, it appears to have been inhabited by several different nations or tribes, of whom only two are yet in existence—the Mic-Macs and the Melicetes, or Morrisettes. The Mic-Macs speak a dialect of the Iroquois (or Six Nations), Huron, and other northern tribes. The Melicetes are descended from a Delaware or southern race; but in physical appearance they differ little. Both tribes are of a copper colour, with high cheek bones, hazel eyes, long, straight, coarse, black hair, and scanty beard. They are of rather tall stature, erect, very active, not remarkable for muscular strength, but with great powers of endurance; a journey of seventy miles a-day being not unfrequently performed under a heavy burden; bears, deer, and moose, are pursued, and overtaken by them; in ascending and descending dangerous rapids, no Europeans can compete with the Indians; and the quickness of their perceptions in tracing men and animals by the trail or scent, is surprising. This latter quality the American Indian possesses in common with the Australian and other savages; but he is superior in many respects to other uncivilized races, and his ultimate extinction, which seems now inevitable, is much to be regretted. Long before the introduction of Europeans the savage and exterminating warfare carried on between the different tribes, was fast thinning their numbers; but the small pox and other diseases communicated by Europeans, and the supply of spirits, in the use of which the Indian can exercise no moderation, have caused their rapid and almost complete extermination. The total number in the province was in 1811, of Mic-Macs, 935; of Melicetes, 112 = 1,377. Both tribes are scattered in families in different parts of the province, and many wander about in poverty and wretchedness; 14 tracts of land, containing 61,273 acres of land, have been set aside by government as Indian reserves for their use. Most of them have been nominally converted to the Roman Catholic faith, and no efforts have been spared by the British

government to protect and civilize the aborigines of the country. Although both tribes inhabit the same country, their language is totally distinct. The Lord's prayer in each language is as follows:—

The Lord's Prayer in the Mic-Mac Language.

Noorch enen waa-soke abin, chip-took, talwee-sin me-gay-day-de mek. Waa-soke-te-lee-daa-nen chip-took igga nam-win oo-la ne-moo-lek naa-dee la tay se-nen. Naa-tel waa-soke ai-keek chip-took ta-lee-ska-doolok ma-ga-mi guk ay e-mek. Tel-la-moo-koo-be-ne-gal es-me-a gul opeh nega-a-tah kees-took igga-nam-win nes-el-co-nen. Ta-lee a-bik-chik-takaa-chik wi-gai-nee-na-met-niek elk-keel-nces-kaam a-bik chie-toe-in el-wa-wool-ti-jek. Mel-kee-nin naech win-chee-gul mook-ta-gaa-lin hees-e-na waam-kil win-chee-gukl ko quiak too-ack-too-in.—*Quebec Version.*

The Lord's Prayer in the Melicete Language.

Me-tox-sen-na spum-keek ay-e-en saga-mow-ee tel-mox-se'en tel-e-wee-so-teek. Cheeptooke wee-chee-u leek spum-keektam e-too-cheesauk-too leek spum-a kay-e'en. Too-eep-nankna-men kes-e kees-skah-keel wek-a guleek el-me-kees-kaak keel-mets-min a-woolee. Ma-hate-moo-in ka-tee a-lee-wa-nay-oal-te-ek el mas we-che-a keel mecoke-may-keel ne-ma-hate-hum-too-mooin.

Each tribe has laws peculiar to itself, but a grand council is held annually at Pleasant Point, on the St. Croix river, of chiefs and delegates of the Penobscots, Mic-Macs, and Melicetes, where friendly relations are renewed; regulations to prevent collision in hunting and fishing established; and measures for the general weal discussed and adopted. They say that the "Great Spirit" has permitted the "pale faces" to come into the country to kill the game, catch fish, and cut down trees, but that they are the lords of the soil, and the rightful owners of the land, the water, and the sky. Their belief in a resurrection is manifested by their burying with the dead the implements and trinkets he used on earth, and which, they believe, he will require in another world.

The early European settlers in the province were composed of American loyalists, who exiled themselves from their native country, in order to remain subjects of the crown of Britain. In 1783, 3,000 of these meritorious people arrived at St. John's from Nantucket, and joined a few families, who had migrated from New England in 1762, and settled at Mangerville, on the St. John's

river. These were joined by others, and by disbanded soldiers from provincial regiments, and subsequently by emigrants from Europe and by some Acadians. The hardships endured by the early inhabitants were very great—famine and cold caused much misery, but the energies of the Anglo-Saxon race carried them through all difficulties, until, in the language of Dr. Gesner, they have “finally covered the banks of the noble St. John with rich fields, villages, and cities.”

The population has thus increased since 1783—

1783	11,457	1824	74,176
1803	27,000	1834	119,457
1817	35,000	1840	156,162

The estimated population of New Brunswick at the beginning of 1848, was 208,012, distributed as follows:—County of Ristigouche, 4,214; Gloucester, 10,334; Northumberland, 19,493; Kent, 9,769; Westmoreland, and Albert, 23,581; King's, 19,285; St. John, 43,912; Queen's, 10,976; Sunbury, 5,680; York, 18,660; Carleton, 17,841; Charlotte, 24,237. Between 1834 and 1848, in the space of 14 years, the population has been nearly doubled; not, however, by births only, but also by emigration. Yet there is abundant room, and, indeed great lack of fresh settlers, for there are nearly 80 acres of area to each month in the province.

Comparative Statements of the Increase of the Population since the Year 1824.

Counties	Total of persons in the year 1824	Counties.	Total of persons in the year 1834	Increase.	Counties.	Total of persons in the year 1840	Increase.
York	10,972	York	10,478	8,999	York	13,595	3,517
Saint John	12,907	Carleton	9,493	7,761	Carleton	13,381	3,888
King's	7,930	Saint John . . .	20,668	4,263	Saint John . . .	32,957	12,289
Queen's	4,741	King's	12,195	2,463	King's	14,464	2,269
Sunbury	3,227	Queen's	7,204	2,463	Queen's	8,232	1,028
Westmoreland . . .	9,303	Sunbury	3,838	611	Sunbury	4,260	422
Northumberland . .	15,829	Westmoreland . .	14,205	4,902	Westmoreland . .	17,686	3,481
		Northumberland .	11,170	6,031	Northumberland .	14,620	3,450
		Kent	6,031	9,005	Kent	7,477	1,446
		Gloucester	8,323	6,585	Gloucester	7,751	2,589
Charlotte	9,267	Charlotte	15,852	45,281	Ristigouche . . .	3,161	2,326
Charlotte	9,267	Charlotte	15,852	6,585	Charlotte	18,178	2,326
Grand Total in 1824	74,176	Grand Total in 1834	119,457	45,281	Grand Total in 1840	156,162	36,705

The paucity of inhabitants in some counties is remarkable: in Ristigouche there were in 1810, *four hundred acres* of area to each inhabitant; in Northumberland, *two hundred and three*; in York, *one hundred and sixty-four*; in Kent, *one hundred and thirty-eight*; and in Gloucester, *one hundred and thirty-five*. New Brunswick might, with ease, sustain ten times its present population.

The society at St. John's and Fredericton is composed of the civil and military servants of the crown, professional men, and merchants, who constitute the basis of colonial society in all our settlements; and are distinguished by the courtesy and intelligence which mark the same class in England. In the middle and lower classes, the habits and manners of the United States predominate; but all classes unite in loyalty to their sovereign, and attachment to the parent state. The number of charitable institutions—the efforts made for the diffusion of instruction—and the attention paid to the ordinances of religion, indicate the benevolence and piety of the people.

The women of New Brunswick are gene-

rally handsome, and of a fair complexion; the higher class are well educated, and often highly accomplished.

Form of Government.—Similar to that of Canada and Nova Scotia. The affairs of the province are administered, for the sovereign, by a lieutenant-governor, aided by an executive council, consisting of 8 members; a legislative council of 17 members; and a House of Assembly of 39 representatives of the people.

The different Assemblies or Parliaments of New Brunswick have been as follows:—

Time of Meeting.	Time of Dissolution.
1786 . . . 3rd Jan.	1792 . . . 7th Dec.
1793 . . . 12th Feb.	1795 . . . 24th Dec.
1796 . . . 9th Feb.	1802 . . . 10th May
1803 . . . 9th Feb.	1809 . . . 11th July
1810 . . . 27th Jan.	1816 . . . 20th July
1817 . . . 4th Feb.	1819 . . . 24th March
1820 . . . 2nd Feb.	1820 . . . 15th May
1821 . . . 13th Jan.	1827 . . . 24th May
1828 . . . 14th Feb.	1830 . . . 13th Sept.
1831 . . . 7th Jan.	1834 . . . 7th Nov.
1835 . . . 20th Jan.	1837 . . . 18th Aug.
1837 . . . 20th Dec.	1842 . . . 1st Dec.
1843 . . . 31st Jan.	1846 . . . 16th Sept.
1847 . . . 28th Jan.	

Population of the Province of New Brunswick in the year 1840, according to the latest Census taken by direction of the Provincial Legislature—(continued.)

City, County, or District.	Inhabited Houses.	Whites.				People of Colour.				Total of Persons.	Places of Worship.						Estimated quantity of cleared Land. Acres.
		Males above 16.	Males under 16.	Females above 16.	Females under 16.	Males above 16.	Males under 16.	Females above 16.	Females under 16.		Church of England.	Presbyterian.	Methodist.	Baptist.	Roman Catholic.	Other Denominations.	
NORTHUMBERLAND:—																	
Newcastle	404	833	679	720	779	2	0	0	0	3,013	0	1	1	0	0	0	2,006
Chatham	441	1,118	718	862	745	1	1	1	0	3,903	2	2	1	0	0	0	3,660
Landow	81	208	112	131	147	0	0	1	0	509	0	0	0	0	0	1	1,626
Northesk	229	423	394	330	430	1	0	0	0	1,577	0	0	0	1	1	0	3,103
Abwick	138	288	239	243	257	0	0	0	0	1,027	0	2	0	0	3	0	2,011
Ellisfield	68	182	136	105	122	0	0	0	0	545	0	0	0	0	0	0	2,333
Blacksville	195	415	347	265	330	2	0	0	0	1,357	1	1	0	1	1	0	3,048
Glencly	257	393	297	272	289	0	0	0	0	1,351	1	2	0	0	1	0	3,828
Nelson	253	501	426	362	557	2	0	0	0	1,648	0	1	0	0	1	0	3,624
KENT:—																	
Richibucto	315	582	506	488	511	1	0	0	0	2,088	1	1	2	0	2	0	4,563
Carleton	229	579	413	840	353	0	0	0	0	1,644	0	1	1	0	3	0	3,735
Wellington	237	477	292	374	399	0	0	0	0	1,452	0	0	1	0	2	0	4,829
Dundas	176	281	322	240	309	0	0	1	0	1,176	0	0	0	0	0	0	3,182
Webford	192	311	289	224	304	0	1	1	0	1,130	1	1	0	0	1	0	4,104
Huskisson, (without population)																	
Harcourt																	
GLOUCESTER:—																	
Saumarez	226	358	431	410	389	0	0	0	0	1,591	0	0	0	0	2	0	1,775
Caracquet	290	516	561	456	539	0	0	0	0	2,075	0	0	0	0	3	0	3,256
New Brandon	112	174	190	148	188	0	0	0	0	700	0	0	0	0	1	0	2,270
Beresford	166	292	324	285	315	0	0	0	0	1,214	0	0	0	0	2	0	1,558
Bathurst	291	694	491	476	610	0	0	0	0	2,171	1	1	1	0	1	0	2,822
RISTIGOUCHE:—																	
Dalhousie	136	486	235	186	181	4	1	2	2	1,095	0	1	0	0	0	0	2,168
Addington	121	254	199	173	193	2	1	0	1	814	0	1	0	0	0	0	832
Durham	85	151	140	108	130	0	0	0	0	536	0	0	0	0	0	0	1,932
Colborne	76	140	133	109	118	0	0	0	0	500	0	1	0	0	1	0	1,520
Eldon	8	201	5	5	5	0	0	0	0	216	0	0	0	0	0	0	27
CHARLOTTE:—																	
Saint Andrew's	509	912	924	956	847	8	13	17	5	3,682	1	1	1	1	1	0	5,309
Saint Stephen's	495	932	815	864	794	0	0	0	0	3,465	3	1	3	1	0	0	4,225
Saint David	171	465	416	391	403	0	0	0	0	1,609	1	0	1	1	1	0	4,886
Saint George	393	600	509	631	614	3	0	5	0	2,422	1	1	0	2	1	0	4,067
Saint Patrick	294	515	574	411	552	0	0	0	0	2,015	1	1	1	1	1	0	5,206
Saint James	179	327	290	282	256	0	0	0	0	1,155	1	1	0	0	0	0	4,499
Pennfield	168	285	205	233	260	0	0	0	0	1,043	1	0	0	1	0	0	2,235
Grand Manan	154	259	273	238	233	0	0	0	0	1,093	1	0	0	0	0	1	2,671
West Isles	178	226	308	287	304	1	0	2	0	1,128	0	0	0	2	0	0	1,007
Campo Bello	111	170	187	180	173	0	0	0	0	718	1	0	0	0	0	0	1,000
Summary:—																	
County of York	2,005	3,747	3,294	3,341	3,158	104	116	143	92	13,995	10	2	5	10	2	1	44,818
" Carleton	1,917	3,553	3,529	2,979	3,278	22	11	10	8	13,381	3	1	2	4	4	5	49,953
" Saint John	2,806	8,993	7,078	9,223	6,896	183	158	281	145	32,957	8	2	5	4	4	5	19,134
" King's	2,178	3,856	3,637	3,490	3,307	58	43	43	30	14,464	11	3	6	12	2	0	69,452
" Queen's	1,168	2,215	1,954	1,908	2,061	23	23	23	25	8,232	5	0	1	7	2	4	43,089
" Sunbury	573	1,165	1,094	985	1,001	4	3	5	3	4,260	2	1	1	1	0	3	12,262
" Westmorland	2,467	4,486	4,600	4,170	4,360	15	18	14	23	17,686	4	2	11	13	6	0	99,022
" Northumberland	2,037	4,360	3,398	3,288	3,560	11	1	2	0	14,620	4	9	2	2	8	1	25,323
" Kent	1,149	2,489	1,732	1,676	1,876	1	1	2	0	7,477	2	3	1	0	9	0	20,413
" Gloucester	1,085	2,034	2,003	1,775	1,911	0	0	0	0	7,551	1	1	1	0	9	0	11,681
" Ristigouche	462	1,235	705	581	627	6	2	3	0	3,161	0	3	0	0	1	0	5,579
" Charlotte	2,622	4,637	4,378	4,475	4,436	12	13	24	5	18,178	11	5	6	8	4	2	35,135
Total	20,514	42,470	37,593	37,887	36,501	139	139	149	134	156,162	61	32	41	61	51	21	435,861

REMARKS. *County of York.*—In the estimation of the cleared Land, the Town Plot of Fredericton is not included: here are in the Parish of Douglas three Out Mills. *County of Carleton.*—There is in the Parish of Northampton one Out Mill not included in the above return. *County of Westmorland.*—The Parish of Dorchester has three first-rate Out Mills. Of the estimated quantity of cleared land, 4891 acres are dyked marsh. The Parish of Sackville—of the estimated quantity of cleared land 765 acres are dyked marsh. *County of Ristigouche.*—No return has been made of the Population of the Lumbering Districts, or of a very large portion of the labouring class in this county, which may be safely estimated at from 1,200 to 1,500 Males above 16 years of age. *County of Charlotte.*—Nearly 200 of the Male Population of the parish of West Isles were at sea at the time of taking the census, and are consequently not included in the above return.

Military Defences.—An excellent militia, consisting of a regiment of yeomanry cavalry, of 10 complete troops stationed in different counties; 3 separate troops of cavalry; a regiment of artillery, with a lieutenant-colonel, 2 majors, 9 captains, 8 first and 7 second lieutenants and staff; 18 regiments of militia divided into battalions, and including light infantry and rifle corps. The militia commissions comprise 63 field officers, 380 captains, 786 subalterns, 120 staff, 1,030 sergeants, 60 drummers, and 27,200 rank and file.

The militia, by the military act of 17th March, 1825, are liable to be called out three days in each year—one for general muster, and two for company drill. They were only called out one day in 1848. The organization of the militia is complete, and a number of volunteer companies at St. John, Fredericton, and other places, are armed and trained. The sports of the country have made many of the militia excellent marksmen, and, as in Canada, they would be formidable adversaries to an invader.

The annual expenses of the militia are—salary of adjutant-general, £85; quartermaster-general, £150; to each adjutant, £15 (£510); and £7 10s. to each sergeant-major (£250); total, £1,000.

The military posts at New Brunswick are—

Military Posts.	Barracks.	
	Officers.	Men.
St John	11	632
Fredericton	20	439
St. Andrew's	—	30
Peggle	4	164

The pecuniary allowances, expense for rations, quarters, or other advantages, are provided by the colony. There is a bounty of £5 allowed by the Provincial Legislature for the apprehension of deserters from her majesty's forces, provided the amount do not exceed £100 per annum.

The Judicial Department comprises a Supreme Court, with a chief and three puisne judges; a court of Chancery, one of marriage and divorce, and one for the trial of offences committed at sea—over these three courts the lieutenant-governor presides; a court of vice-admiralty, and one of probate. There are commissioners of bankrupts' estates. The "Barristers' Society" numbers 57 members; the roll of barristers and attorneys in 1849 contained 155 names. In British America both branches of the law are practised by the same individual.

Ecclesiastical Department in 1849.

Denomination.	Number of Clergy.	No. of Churches.	No. of Chapels.	No. of Reading Places.	Church Accommodation.	Generally Attending.	Parsonages.	Glebes.
Church of England in 1847	1 Bishop 1 Archdeacon 33 Rectors 8 Curates	61	17,920	Unknown.	20	. .
Church of Rome in 1846	1 Bishop 24 Priests							
Church of Scotland in 1847	8 Ministers 21 Ministers							
Wesleyan Methodists in 1847	33 Local Preachers							
Baptists in 1846	41 Ministers	65	119	26,000	22,500

There are also about 12 ministers of the Presbyterian church in New Brunswick, and of the Reformed Presbyterian church; and there are 4 Congregational ministers. There is a Church and an Auxiliary Bible Society. The protestant diocese of Fredericton was created in 1845. The clergy of the Established Church derive their principal support from the "Society for the Propagation of the Gospel in Foreign Parts." The livings are from £200 to £300 currency. There are about 90 parishes and 60 churches, capable of holding 20,000 persons. Dr.

Gesner says, that double the number of clergymen of the Established Church could be advantageously employed. The Roman Catholic diocese includes Prince Edward Island. The Roman Catholics are principally the Irish and Acadians; their clergy are supported by subscriptions, fees, pew-rents, and tithes. The Presbyterian church was established by ministers sent from Scotland in 1817; they have churches in different counties, and with large congregations. The Wesleyans are a numerous and respectable body. Their ministers are paid

as highly as those of the Established Church, according to their being married or unmarried, to the number of their children, and to their length of service in the ministry. The Baptists are divided into several sects, but they are generally serious and well-conducted. Their established faith is contained in 17 articles, and they meet annually to adopt regulations for the preservation of harmony. "Camp meetings" are occasionally held in New Brunswick, and on the United States frontier.

EDUCATION is carefully and judiciously extended. The university of King's College, at Fredericton, established in 1828, by Sir Howard Douglas, has for its patron the Queen, and is well supplied with professors in different branches of literature and science. For superior degrees, the terms and exercises correspond with those of the English universities. The religious exercises are those of the Church of England, and candidates for degrees in divinity are required to subscribe to the Thirty-nine Articles of the church. The college is endowed with 6,000 acres of valuable land, near Fredericton, has a grant from the crown of £1,000 sterling per annum, and £1,000 from the Provincial Legislature. Scholarships of £20 and £25 have been founded, and are given to students of merit. The expense of tuition and board is about £35 currency per annum. Candidates for matriculation are required to be acquainted with the Latin and Greek languages, and the rudiments of algebra and geometry. The instruction is devoted to the classics, mathematics, natural philosophy, chemistry, natural history, intellectual philosophy, logic, and the evidences of religion, natural and revealed; moral philosophy, general history, Hebrew, theology, and French. The academical year has four terms; and four years are required for the degree of Bachelor of Arts. There is no distinction in reference to religious profession, age, or otherwise. There is a collegiate school at Fredericton, which educates boys preparatory to matriculation. The Wesleyans and Baptists have each a superior academy for instruction. There are grammar and parish schools in each county: the supervision of the former is vested in a board of trustees, appointed by the lieutenant-governor and council, and the general management of the latter is, by an act of the House of Assembly (10 Viet., ch. 56), vested in the lieutenant-governor and council, as a board of education. Nine

schools is the average number permitted to be established for each parish; but the number may be increased to thirteen, provided the whole number in the county to which the parish belongs does not exceed the established average. The government allowance to teachers in the parish schools is, per annum, £30 first class, £22 second class, and £18 third class. The emoluments of the teachers, exclusive of the government allowance, range from £20 to £100 per annum.

Public Schools in New Brunswick.

Counties.	Gram. Schools.		Parish Schools.					
	Number.	Scholars.	Number.	Teachers.		Scholars.		Total Scholars.
				M.	F.	M.	F.	
York	1	76	60	49	11	944	841	1785
St. John . . .	1	59	48	39	9	1559	960	2519
Charlotte . .	1	69	69	44	25	1206	926	2132
King's	1	30	64	50	14	1096	833	1931
Queen's . . .	1	15	47	43	4	661	510	1171
Sunbury . . .	1	30	25	17	8	382	334	716
Carleton . . .	1	31	35	30	5	418	338	756
Restigouche .	1	38	13	10	3	150	141	291
Gloucester . .	1	72	24	14	10	324	335	659
Northumberland	2	—	53	46	7	1086	861	1947
Kent	—	—	35	29	6	473	376	850
Westmoreland .	—	—	71	56	15	1061	900	1961
Albert	1	42	27	18	9	386	323	709
Total	11	486	571	445	126	9737	7680	17933

The Press.—There are eight printing-offices, whence issue eight newspapers, conducted with ability; but occasionally, as may be supposed, with considerable party acrimony. The *New Brunswick Courier*, and *Royal Gazette*, contain much valuable local and statistical information. All the towns have libraries, more or less extensive. The *New Brunswick Almanack and Register*, prepared under the superintendence of the Fredericton Athenaeum, is one of the fullest and most complete publications of the kind in the British empire. Music and drawing are cultivated to a certain degree; and there are occasionally lectures on astronomy, chemistry, elocution, and the belles-lettres. In St. John's, St. Andrew's, and Fredericton, there are public reading-rooms, where all the leading British and foreign newspapers and periodicals are regularly received.

CRIME.—The number of *felons*, in 1848, in prison, was—of *tried*, whites, males, 31; females, 2; blacks, males, 2; females, 1. *Untried*—whites, males, 5; females, 1; blacks, males, 1. *Misdemeanors*—*tried*—whites, males, 32; females, 11; blacks, males, 2; females, 2. *Untried*—whites, males, 4; females,

1; blacks, females, 1. *Debtors*—whites, males, 45; females, 2; blacks, males, 1. The total number of prisoners in confinement at Michaelmas, 1818, was—whites, males, 115; females, 19; blacks, males, 6; females, 4. Greatest number in confinement at any one time in the year—whites, males, 119; females, 27; blacks, males, 3; females, 6. The prisoners are kept at hard labour in and out of gaol. Of the white prisoners, the number who could not read, were—males, 28; females, 1. The number under 18 years of age, were—males, 14; females, 1. There were no deaths in the prisons of New Brunswick during the year. There is a gaol in each county, which is under the jurisdiction of the sheriff and magistrates of the county, who visit the prison from time to time. There is no fixed system of management or discipline.

Public Institutions.—There is an excellent

marine hospital, into which the admissions, during 1817, were—with fever, 223; other diseases and accidents, 236 = 459. The deaths during the year were 29, of whom 13 were from fever, 6 from inflammation of the lungs, 2 from dysentery, and the remainder from other diseases. 109 patients were discharged cured. The expense of the hospital during the year was £2,116, including £303 for the purchase of land; buildings and mason-work, £536; labour, cartage, &c., £165. There were 10,939 diets during the year, which cost only £301. There is a lazaretto on Sheldrake Island, Miramichi, which costs £600 a-year. There have been, for some time, 9 lepers on the island—4 men, 1 boy, and 4 women.

There is a provincial lunatic asylum, which, in 1817, contained 110 patients, classed as follows:—

Patients.	Age. 10 to 20.	Age. 20 to 30.	Age. 30 to 40.	Age. 40 to 50.	Age. 50 to 60.	Age. 60 to 70.	Age. 70 to 80.	Total.
Males	5	25	23	18	5	0	0	76
Females	6	21	18	11	1	3	1	64
Total	11	46	41	32	6	3	1	140

The Record shows:—

Patients.	Males.	Females.	Total.	Discharged.		Eloped.	Died.	Remaining.
				Cured.	Uncured.			
Old Cases in Asylum 1st January 1817	39	39	78	13	1	2	3	59
Admitted in 1817, and Re-admissions	47	26	73	34	0	1	5	33
Total	86	65	151	47	1	3	8	92

Character of disease on admission—ordinary insanity, 109; epileptic insanity, 7; delirium tremens, 8; imbecility, 1; furious madness, 7; idiocy, 2; hydrophobia, 1; brain fever, 1; paralysis, 1. Total, 140.

The admissions from the different counties were, St. John's, 77; Charlotte, 21; King's, 14; York, 13; Carleton, 7; Northumberland, 7; Westmoreland, 5; Gloucester, 3; Sunbury, 3; Kent, 1. Total, 151. Expenditure for the year, £1,627. Average annual number of patients, 81; keepers, 12. Average cost per head, weekly, of patients alone, including all expenses, 7.5 per head.

Among the institutions of the city of St. John's is a Chamber of Commerce, a Sailors' Home, Mechanics' Institute, a District Committee of the Society for Promoting Christian Knowledge, a Religious Tract Society, an Orphan Benevolent Society, a Sacred Music

Society, Ladies' Benevolent Society, *Young Ladies' Total Abstinence Society*, and St. John's Auxiliary to the New British and Foreign Temperance Society (on the total abstinence principle).

The gradual increase of lunacy, in New Brunswick, is shown by the admissions into the asylum between 1836 and 1846:—

Years.	Admitted.	In Asylum 1st Jan.	Total.	Remaining Dec. 31.
1836	31	—	31	14
1837	40	14	64	21
1838	29	21	50	21
1839	39	21	60	24
1840	48	94	72	40
1841	68	40	108	54
1842	43	24	97	32
1843	47	52	99	56
1844	60	56	116	69
1845	50	69	119	94
1846	62	74	136	78

CHAPTER IV.

REVENUE AND EXPENDITURE, TARIFF OF DUTIES, BANKS AND COINS, COMMERCE, IMPORTS AND EXPORTS, STAPLE PRODUCTS, AGRICULTURE, MANUFACTURES, AND FISHERIES, BANKS, MONIES, PRICES OF COMMODITIES, WAGES OF LABOUR, &c.

REVENUE.—In 1727, the public income of the province was, in round numbers, £712; in 1789, £962; in 1794, £1,569; in 1803, £3,731; in 1814, £25,878; in 1827, £31,000; in 1837, £60,000; and in 1847, £127,000. Estimating the permanent revenue at £120,000, and the present population at 220,000, the taxation is not much more than 10s. per head annually.

Comparative Statement of the Revenue of New Brunswick, and the sources whence derived, in the years 1846 and 1847.

Sources of Revenue.	1846.	1847.
Ordinary revenue	47,774	50,287
Export duty	22,661	16,553
Received from customs	30,361	31,912
Casual revenue	7,600	9,500
Loan fund	8,281	9,571
Supreme court fees	454	792
Auction duty	407	246
Pedlars' licences	45	27
Emigrant duties	2,129	3,250
Light-house ditto	4,817	3,700
Sick and disbanded seamen . .	2,250	1,566
Total (less shillings and pence)	£127,326	127,410

In 1818, there was a considerable diminution in the revenue of the province, owing to commercial embarrassment, and especially to the depression in the timber and deal trade. The debt of the province is about £80,000. The emigrant tax is levied at the rate of 5s. per head, and appropriated to the benefit of all immigrants. The custom duties are levied under the authority of a Revenue Act, passed in New Brunswick, 30th March, 1818, which imposes a tariff of discriminating duties, in favour of British and colonial produce, growth or manufacture, compared with foreign. This tariff was adopted after the "free import" system of England was enforced, and indicates the desire of the colonists to view England as the parent state. In Canada and Nova Scotia no distinction has been made in the duties levied, on British, and on foreign products. [See Canada Tariff, vol. 1, p. 115.]

It will be seen by the following table, that the discriminating duties are as high as 100, 200, and 300 per cent. in favour of England:—

Tariff of Duties in the Province of New Brunswick, under the Revenue Act, passed 30th March, 1818.

Articles subject to Duty.	On British and Colonial produce, growth, or manufacture.	On Foreign produce, growth, or manufacture.
<i>Specific.</i>		
Apples, per bushel	£ 0 6 0	£ 0 6 0
Butter, per cwt.	0 4 6	0 9 0
Candles of all kinds, except sperm and wax, per lb.	0 0 1	0 0 1½
Sperm and wax, per lb.	0 0 3	0 0 4
Cattle of all kinds over one year old . .	1 0 0	2 0 0
Cheese, per cwt.	0 3 0	6 0 0
Clocks or clock cases of all kinds, each .	0 5 0	15 0
Coffee, per lb.	0 0 1	0 0 1½
Fish of foreign taking or curing, dried or salted, per cwt.	Free.	0 2 6
Pickled, per barrel	Free.	0 5 0
Fruit, dried, per cwt.	0 5 0	0 7 6
Horses, mares, and geldings, each . .	2 0 0	3 0 0
Leather, sole, per lb.	0 0 1½	0 0 2½
Upper leather, per lb.	9 0 1	0 0 3½
Harness and belt leather, per lb. . .	0 0 1	0 0 2½
Sheep skins, tanned and dressed, per doz.	0 2 6	0 3 0
Calf skins, tanned, per doz.	0 2 6	0 6 0
Malt liquors of every description (not being aqua vite, otherwise charged with duty), whether in bottles or otherwise, per gallon	0 0 3	0 0 6
Meats, fresh, per cwt.	0 4 2	0 6 3
" salted and cured, per cwt.	0 2 6	0 5 0
Molasses and treacle, per gallon . . .	0 0 1	0 0 3
Spirits and cordials, viz.:—		
Brandy, per gallon	0 3 0	0 3 0
Rum and other spirits, and cordials: For every gallon of such rum or other spirits or cordials of any strength, under and not exceeding the strength of proof of 26 by the bubble And for every bubble below 26 in number, an additional, per gal. . . .	0 1 0	0 1 3
Lemon syrup, per gal.	0 0 2	0 0 2
Sugar, refined, in loaves, per lb. . . .	0 1 0	0 1 0
" refined, crushed, per cwt.	0 0 1	0 0 2
" of all kinds, except refined and crushed, per cwt.	0 5 0	0 10 0
Tea, per lb.	0 2 6	9 6 0
Tobacco, manufactured, except Snuff and cigars, per lb.	0 0 2	0 0 2
Wines, per gallon	0 0 1	0 0 1
Wheat flour, per barrel	0 3 0	0 3 0
Wheat flour, per barrel	0 1 0	0 2 0
<i>Ad valorem.</i>		
On the following articles, for every one hundred pounds of the true and real value thereof, videlicet:—		
Boots, shoes, and other leather manufactures	1 0 0	30 0 0
Carriages, waggons, sleighs, and other vehicles	4 0 0	30 0 0

Articles subject to Duty.	On British.	On Foreign.
Chairs, and prepared parts of or for chairs; clock wheels, machinery, and materials for clocks; household furniture (except the property of passengers and emigrants, for their own use, and not intended for sale), looking-glasses; oranges and lemons; whale oil (except the return cargoes of vessels fitted out for fishing voyages from ports in this province); wooden wares of all kinds; matches; corn brooms and brushes; hat and hat-bodies	4 0 0	20 0 0
Piano Fortes; snuff and cigars	10 0 0	20 0 0
Cordage	Free.	10 0 0
Bread and biscuit	4 0 0	10 0 0
All other goods, wares, and merchandise, not otherwise charged with duty, and not hereafter declared to be free of duty, for every hundred pounds of the true and real value thereof	4 0 0	15 0 0

Exemptions from Duty.—Anchors; ashes; baggage and apparel not intended for sale; barilla; beans and peas; books, printed; burr stones; canvases; carriages of travellers not intended for sale; chain cables and other chains for ships' use; coal tar; coals; coins, bullion, and diamonds; composition nails and spikes for ship building; corn, wheat, rye, Indian corn, barley, oats, rice, ground and unground, and buckwheat unground, barley meal, rye flour and meal, oatmeal, Indian meal, buckwheat meal, and calavances; cotton wool and cotton warp; copper in sheets, bars, and bolts, for ship building; corn broom brush; dog stones; duck; dye wood; eggs; felt; fishing-craft utensils, instruments, and bait; fruits, fresh roots, and vegetables of all kinds, except apples, oranges, and lemons; furniture, working tools, and implements, the property of emigrants, not intended for sale; gypsum, ground and unground; hemp, flax, and tow; hides, green and salted; iron in bolts, bars, plates, sheets, and pig iron; lines and twines for the fisheries; looking-glass plates; manures of all kinds; mill saws; morocco skins; nets and seines; oakum; oil, blubber, fin, and skins, the produce of creatures living in the sea, the return of vessels fitted out in this province for fishing voyages; oil—seal, cod, porpoise, palm, and rape; ores of all kinds; pitch; plants, shrubs, and trees; poultry of all kinds; printing paper; quicksilver; rags, old rope, and junk; rock salt; rosin; sail cloth of all kinds; salt; seeds of all kinds; sails and rigging saved from vessels wrecked; sheathing paper; ships, ship tackle, and apparel; skins, furs, pelts, or tails, undressed; soap grease; spikes and sheathing nails; steam-engines, boilers, and machinery for mills; stone, unmanufactured; tallow; tar; tin in sheets and blocks; tobacco, unmanufactured; turpentine; varnish of all kinds; wood and lumber of all kinds, except cedar, spruce, pine, and hemlock shingles; wool; zinc.

In addition to the foregoing rates of duty, one per cent. is charged, under the Loan Act, on all manufactured goods, without any exemption, except those of British colonies.

Loan Fund.—This fund has been raised by a duty imposed, in 1813, on British and foreign importations, to provide for the redemption of the debt contracted previous to the year 1811, and which will be liquidated by instalments in fourteen years.

Expenditure.—This is shown in the following statement of disbursements for the past two years. The calculations are in sterling money, and the shillings and pence are excluded in the totals.

Items.	Years.	
	1817.	1818.
Civil list	£12,083	£12,083
Pay, &c., of legislature	7,332	6,576
Collection of revenue, &c.	3,152	5,351
Judicial establishment	2,029	1,987
Provisional contingencies	375	510
College and grammar schools	1,958	1,968
Parish and Madras	10,209	11,868
Printing laws, journals, &c.	1,446	8,823
Great roads	18,511	20,518
Bye-roads, &c.	13,126	11,161
Navigation of rivers	1,187	1,000
Public buildings	873	816
Wharfs and landings	895	575
Couriers and packets	987	1,337
Lunatic asylum	9,164	1,360
Provisional penitentiary	1,291	1,250
Destruction of bears & wolves	187	320
Bounty for erecting oat mills	250	41
Agricultural societies	1,066	5,125
Relief of emigrants	5,098	12,122
Charitable purposes	4,631	2,621
Indians	500	333
Return duties	317	455
Miscellaneous	3,855	2,656
Interest on sums borrowed	4,418	5,106
Light-houses	3,661	3,890
Sick and di-banded seamen	3,145	1,426
" Ordinary	852	754
Military contingent	104	76
Total	£113,775	£115,333

In 1837, the New Brunswick Legislative Assembly sent two delegates to England to represent that the colonists had not sufficient control over the levying and disbursement of provincial taxes. The crown thereupon relinquished its rights entirely, in consideration of a fixed civil list, of £14,500 currency per an. being guaranteed. Since then, the colonists complain that the British government gave up some of their best timber districts to the United States, under the provisions of the "Ashburton treaty," in 1812, for which deprivation they consider they ought to have received compensation. As the population of the province increases, the amount of the civil list (which is really not large) will be more easily borne by the colonists. Poor-rates are in general moderate throughout the province; county rates are occasionally levied for local purposes, and there is a statute labour for the roads, commuted on a graduated scale of property, trade, or official income. The three days' annual service for the militia,

required of all males between 16 and 15 years of age, is, in the event of non-attendance, compensated by a fine of 10s. for each day's absence.

Banks.—The province possesses several monetary institutions. The Bank of New

Brunswick has a capital of £100,000; Commercial Bank of New Brunswick, capital, £150,000; Central Bank of New Brunswick, capital, £35,000; St. Stephen's Bank, capital, £25,000; Branch of the Bank of British North America, capital, £1,000,000.

Position of the Public Banks.	Central Bank of New Brunswick.	Commercial Bank of New Brunswick.	Bank of New Brunswick.	Charlotte Bank.	St. Stephen's Bank.	Totals.
LIABILITIES:—	£	£	£	£	£	£
Capital stock paid in	35,000	150,000	100,000	—	25,000	310,000
Bills in circulation	42,247	72,279	45,746	9,268	15,906	185,446
Balance due other banks	575	19,928	—	311	3,735	24,579
Cash deposited not bearing interest	26,790	15,727	40,847	24,036	5,350	112,750
Cash deposited bearing interest	482	17,360	—	—	—	17,842
Profits in hand	7,826	—	5,716	1,002	2,855	17,399
Total	112,922	288,174	192,311	34,648	52,817	668,916
RESOURCES:—	£	£	£	£	£	£
Gold, silver, and other coined metals	4,917	12,369	20,590	1,783	4,036	42,825
Bills of other provincial banks	868	8,852	6,383	1,341	177	17,621
Balance due from other banks	3,910	28,181	18,275	31,574	141	82,081
Debts due, including notes, bills of exchange, &c.	102,728	229,975	143,539	—	45,989	522,231
Real estate	1,367	8,795	3,522	—	720	14,404
Total (less shillings and pence)	112,922	288,174	192,311	34,648	52,817	679,162

Coin.—The amount in circulation not ascertained.

Paper money consists of the notes of the banks of New Brunswick, British North America, Central, St. Stephen's, and Charlotte County. The total amount in circulation, in 1818, about £198,000.

Sir W. M. G. Colebrooke, C.B., governor of New Brunswick, in a report to Earl Grey of 8th April, 1818, speaking generally of the North American Colonies, says:—

“It is much to be regretted that a general revision of the monetary system of the colonies should not have been effected by Parliament. The continuance of nominal currencies, having reference to no acknowledged standard, and originating in the English denominations given to Spanish coins no longer current, but which circulated in the colonies on their first settlement, is an anomaly which was corrected in the United States after their separation by establishing a dollar currency, divisible into cents. The establishment of British sterling as the money of account, as a general measure, would be attended with great advantage to the commercial classes, and tend to simplify transactions with the United Kingdom and also with the United States. It may be objectionable to make gold the standard of the colonies, where silver for the most part circulates; and by a slight alteration in the value of the halfpenny to the 1-20th part of a shilling, 1-50th of a half-crown, and 1-100th of a crown-piece, calculations would be as much facilitated as they are in the United States, by the substitution of dollars and cents. The difference between the provincial currency and sterling is 11 1-9th per cent.

The amount of bank paper in circulation in 1845 is returned at £225,000 currency. The amount returned in 1840 and 1841 was £350,000. In 1842, owing to commercial embarrassment and the decline of credit, it fell to £110,000, in 1843 to £72,000, and 1844 the amount was £80,000.

“The banking system in the province is not on a satisfactory footing; and it is to be regretted that the proposal for establishing a provincial bank was not entertained by the Legislature, and that none of the banks now established, afford any accommodation to the agricultural classes. As before observed, farmers, unable to obtain cash credits or other advances, have not only been restricted in extending their operations depending on hired labour, but in remote districts are discouraged from seeking markets for their produce, when they are often reduced to barter.”

There are several joint-stock companies—St. John's Water company, capital £20,000; St. John's Gas Light company, capital, £20,000; St. John's Mechanics' Whale Fishing company, capital, £50,000; a Rural Cemetery company, an Electric Telegraph company, a Mining company, Steam Ferry company, St. Andrew and Fredericton Railway company, building societies, &c.

Between 1835 and 1840, joint-stock companies were formed, whose united stocks amounted to £2,000,000. All these have not, however, gone into operation.

The Central Fire Insurance company has a capital paid in of £10,000; and £10,000 secured by bonds of two sureties.

There is a marine insurance company. The amount under-written, during the year 1817, was £585,049; and the premiums, £20,107. Amount written off during the year, as determined, cancelled, and lost, £182,307. Outstanding risk, 6th July, 1817, £102,742. Loss sustained during the year ending 1st July, 1849, £30,774. Capital stock and assets of the company, £56,501. Of this, paid up, £20,000. In the six months, ending January, 1848, the amount under-written was, £315,864. The premiums thereon £11,574. Loss, and probable loss sustained, £11,120.

The Globe Insurance Company of New Brunswick, has a capital stock paid in of £6000; and £24,000 secured by bonds of the stockholders, with sureties. Total capital, £30,000. Risks, for the year ending 31st December, 1847, £148,992. Premiums received for ditto, £15,335. Losses paid during ditto, £18,868.

There is a chamber of commerce at St. John's, composed of the principal merchants and ship-owners of the city. The chamber communicates with the government on subjects connected with the commerce and general improvement of the country.

Commerce.—The trade of New Brunswick has largely increased; in 1831, the imports into St. John's were valued at £577,777 currency; 1835, at £1,040,000; in 1839 at £1,133,474. In 1842, the value of the imports from Great Britain was £217,000; in 1843, £347,000; in 1844, £454,000; in 1845, £617,000; in 1846 (at St. John's and St. Andrew's only), £533,512; in 1847, £583,355; in 1848, £ . . . The last three years

have been periods of depression, owing to the state of the timber trade. In the imports from Great Britain for 1847, at the port of St. John alone, there were 7,265 packages of cottons, woollens, silks, and linen manufactures, haberdashery, &c., valued at £276,548; iron, wrought, 2,678 tons, value £30,602; iron, unwrought, 2,477 tons, value 27,975; hardware, 11,799 cwt., value £38,979; sailcloth, 455,366 yards, value £26,145; cordage and twine, 17,024 cwt., value £37,483; copper, wrought, 2,163 cwt., value £10,935. These items indicate the valuable trade in manufactures which England carries on with the colonies.

The exports from New Brunswick have also increased; they consist principally of timber and fish. In 1847, the quantity of timber exported from St. John's and St. Andrew's was, 152,653 tons, valued at

£188,146; deals, 28,270,081 feet; staves, 225,905 pairs; shingles, 4,131,583; railway sleepers, 183,570; laths, sawn, 1,215,706; masts and spars, 1,584; and various other descriptions of timber. The following are the exports of wood from St. John in 1839 and 1845. In the returns from the outports, the quantity shipped is not specified:—

Description of Timber.	Quantity, 1839.	Value, 1839.	Value, 1845.
Squared timber, tons . . .	255,647	£277,998	£275,451
Boards, feet	6,222	16,641	26,342
Deals, do.	75,969	189,252	319,650
Staves, thousand	1,858	8,318	4,536
Shingles, ditto	4,504	3,346	6,278
Hand-pikes, number . . .	2,171	117	—
Oars, ditto	6,715	556	158
Lathwood, cords	4,095	4,232	4,342
Sawed Laths, thous. . .	129	—	—
Masts and Spars, No. . .	3,864	2,407	1,951
Ship-knees, ditto	538	109	—
Total	—	£502,976	£638,708

Of fish the exports from St. John in 1847 were—dried, 13,022 quintals; salted, 18,861 barrels; smoked, 11,020 boxes; oil, 3,057 gallons.

In 1847, the shipping entering the port of St. John's was, 2,308 vessels, 347,308 tons; at St. Andrews, 898 vessels, 81,031 tons. The number and tonnage of vessels registered in New Brunswick, in 1844, was—

Ports.	Under 50 tons.		Over 50 tons.	
SAILING VESSELS.—	No.	Tonnage.	No.	Tonnage.
Miramichi	54	1,330	27	8,813
St. Andrew's	137	2,624	56	15,767
St. John's	168	4,978	221	57,762
STEAM VESSELS:—				
St. Andrew's	1	21	3	915
St. John's	1	37	—	201

The navigation on the river St. John will probably be much extended; for by the 3rd article of the treaty between Great Britain and the United States, signed 9th August, 1812, the navigation of the river was opened to the citizens of the United States in the following terms:—

“Article III.—In order to promote the interests and encourage the industry of all the inhabitants of the countries watered by the river St. John and its tributaries, whether living within the province of New Brunswick, or the state of Maine, it is agreed, that where by the provisions of the present treaty, the river St. John is declared to be the line of boundary, the navigation of the said river shall be free and open to both parties, and shall in no way be obstructed by either; that all the produce of the forest, in logs, lumber, timber, boards, staves, or shingles, or of agriculture, not being manufactured, grown on any of those parts of the state of Maine

watered by the river St. John or by its tributaries, of which fact reasonable evidence shall, if required, be produced, shall have free access into and through the said river and its said tributaries, having their source within the state of Maine, to and from the sea-port at the mouth of the said river St. John's, and to and round the falls of the said river, either by boats, rafts, or other conveyance; that when within the province of New Brunswick, the said produce shall be dealt with as if it were the produce of the said province; that in like manner the inhabitants of the territory of the upper St. John, determined by this treaty to belong to her Britannic majesty, shall have free access to and through the river for their produce, in those parts where the said river runs wholly through the state of Maine:—provided always that this agreement shall give no right to either party to interfere with any regulations not inconsistent with the terms of this treaty, which the governments, respectively, of New Brunswick or of Maine may make respecting the navigation of the said river, where both banks thereof shall belong to the same party."

The shipping built in New Brunswick in 1818 was—at St. John's, 62 vessels, 17,061 tons; at Miramichi, 14 vessels, 2,655 tons; at St. Andrews, 10 vessels, 3,077 tons; total, 86 vessels, tonnage, 22,793. In 1817, there were registered at St. John's 83 new vessels, 38,112 tons; for owners in the United Kingdom, 1 vessel, 613 tons; registered at Miramichi, 3 vessels, 1,636 tons; ditto for owners in the United Kingdom, 12 vessels, 6,563 tons; total, 99 vessels, 46,924 tons.

At St. Andrew's the new vessels registered in 1817 were 16, 6,418 tons.

Staple Products.—Timber has hitherto furnished the largest available product of the province. For more than a quarter of a century about 150,000 tons of timber have been annually exported. Since the formation of the colony the quantity of timber cut down has probably not been less than five million tons. According to the replies made in 1834 to some queries by Mr. Smith O'Brien, M.P., and the "Limerick Emigrants' Friends Society," it was stated, that in 1833 there were in the province 229 saw mills, valued at £230,000; on the 1st of January, 1836, the number was 320, valued at £120,000, cutting upwards of 170,000,000 feet of lumber; and early in the year, contracts were entered into by the New Brunswick Mill Company, to the extent of £28,750, for the erection of other mills, which, when in operation, are estimated to cut from 100,000,000 to 150,000,000 feet of lumber, &c., in addition to the above. And the Aristook upper and lower mills, Rapid de Femme, Tobique, Lancaster, Grand Falls,* Acadian Company, and numerous other establishments, are in active preparation for similar purposes.

Relative Value of Saw-Mill Property and Produce, in the different Counties, in 1834.

Counties.	Number of Mills.	Value of Mills, Privileges, &c.	Quantity of Lumber saved.	Value of Lumber at place of shipment.	Number of Men employed.
		£	Feet.	£	
Saint John	35	67,530	40,450,000	76,125	525
King's	46	21,559	6,665,000	16,512	470
Westmoreland	66	23,162	11,225,000	28,046	412
Kent	29	38,450	8,604,000	21,500	196
Northumberland	17	58,900	24,300,000	60,750	3873
Gloucester	10	19,377	3,650,000	9,250	162
Charlotte	55	80,625	48,687,500	124,343	1696
Queen's	12	35,000	4,230,000	10,575	255
Sunbury	11	22,950	9,700,000	24,250	247
York and Carleton	32	43,150	12,800,000	32,000	320
Grand Totals	311	£110,703	170,247,500	£403,353	8156
In 1836	Number of saw-mills, 320	Value, £120,000	Men employed, 4,200		
" 1840	" " 571	" 740,000	" " 7,400		
" 1845	" " 640	" 900,000	" " 8,400		

The timber trade has greatly encouraged emigration; the lumberer not only explores and opens the country as a pioneer for others, he also, by his laborious pursuit, obtains for himself the means to settle on lands that he has helped to clear. Dr. Gesner thus de-

scribes the mode in which this business is conducted:—

"The felling and hewing of the timber for the British market are generally performed by parties of men hired by the timber-merchant or dealer for the purpose. In the autumn they are despatched into the same quantity of lumber annually (1837). The Leprean mills are also in operation, which cut 2,000,000 annually, (1837).

* The Lancaster Mill Company, with 32 saws now in operation, will cut per annum 3,000,000 feet of lumber (1837). The Grand Falls are also in operation with the same number of saws, and will cut about

the woods, with a supply of provisions, axes, horses, or oxen, and everything requisite for the enterprise. Their stores are conveyed up the larger streams, in tow-boats drawn by horses, or in canoes paddled by men; and in winter they are transported over the ice. Hay for their teams is procured from the nearest settlements, and is frequently purchased at £9 per ton. The site for operations having been selected by the leader of the party, a camp is erected, and covered with the bark of trees. The floor of the shanty is made of small poles, and a sort of platform is raised for the general bed, which is composed of evergreen boughs or straw. The fire-place is opposite the sleeping-floor; and that part of the smoke that escapes, ascends through a hole in the roof. In this rude dwelling the food is cooked, and the lumbermen rest at night. A hovel is also built for the oxen, and the hay secured against rain. The party is usually divided into three gangs; one cuts down the trees, another hews them, and the third draws the timber to the nearest stream. They begin their work at daylight in the morning, and seldom return to the camp until evening, when they find their supper prepared. During the night, the fire is replenished with wood by the cook and teamster; and it is a common remark among them, that while the head is freezing, the feet are burning. I have passed several nights with these people in the hackwoods, and always found them remarkably kind and hospitable. They are ever cheerful and contented; and a more hardy, laborious, and active class of men cannot be found in any part of the world. Formerly, a certain quantity of rum was supplied to each individual; but since the introduction of Temperance Societies, the practice is less common.

"The avocation of the lumberman is not altogether free from danger. Many lives have been lost by the falling of trees, and the business of forking timber is sometimes very hazardous.

"In the mountainous districts, it is necessary that the timber should be conducted over the steep precipices and high banks along the borders of the rivers. Having been collected on the tops of the cliffs, the square blocks are launched edwise, over rollers, either into the water below, or on the ice, which is frequently broken by the concussion. In its descent, the passage of the timber is occasionally arrested by trees or brushwood: the lumberman then descends, and, holding on to the branches of doubtful foothold, he cuts away the impediments. This mode of launching timber is called 'forking,'—from which may have originated the substitution of the phrase 'forking over,' for the payment of a debt, as expressed by some of the inhabitants.

"By the latter part of April, the melting ice and snow, with heavy rains, swell the streams and produce freshets. The lumbermen commence 'stream-driving.' The timber on the rivelets is now floated downwards to the deep rivers; each log is launched, and, when stranded, it is again rolled into the current—and their manner of urging the enormous pieces of pine over the rapids is alike creditable to their courage and patience. Still pushing the rafts of timber downwards, and moving with the current that daily transports the bark that covers their movable camps—stung by swarms of insects both day and night, these men possess more patience under their hardships and sufferings than those of any other class in the country. Half-a-dozen of them will frequently navigate the stream astride a log of timber, which they paddle along with their legs in the water; and they will force the light skiff or canoe up a perpen-

dicular fall of three feet, where the roaring of the water is truly deafening, and where there is constant danger of being plunged into some whirlpool, or dashed against the rocks. Although they are frequently rendered giddy by the revolving motion of the eddies, they fix the poles upon the bottom, and move away against the foaming torrent, or cross the stream on slippery blocks of pine. Such is the force of habit, that these men view the forest as their home, and the river as their turnpike; constantly exposed to the inclemency of the weather and the water of the rivers, they appear contented, and seem to regret when the labour of the season is ended. In situations where the water is more tranquil, a singular spectacle is sometimes presented: each of the drivers mounts a log or piece of timber, and, with their pikes in hand, the party move along like a floating regiment, until some fall or rapid warns them to re-embark. Not unfrequently, a rapid is blocked up with timber in such quantities, that it refuses to pass. This is called a 'jam.' The clearing away of these jams is the most dangerous part of the stream-drivers' employment, and who are sometimes thrown down a fall or rapid into the boiling pool beneath.

"The quantity of timber in one of these drives is enormous: its progress along the river where there are rocks is therefore slow, especially when the summer is advanced, and the volume of the water consequently diminished. In order to deepen the water, 'wing dams' are sometimes constructed on the sides of the most troublesome rapids. The depth and velocity being thus increased, the floating timber passes along more readily; but these dams greatly impede the passage of canoes in ascending the streams. Like the employment of the sailor, the work of the lumberman is peculiar: he requires much practice and experience; and it may be safely asserted, that should any unfavourable change take place in the home timber trade, thousands of men will be thrown out of employment, who have as little disposition to engage in agriculture as those who have been employed as sailors or fishermen.

"The timber and logs having been collected, are formed into large flat rafts, and floated down to their place of shipment, or to saw-mills, where the logs are manufactured into deals, boards, planks, &c. The lumber-men then receive their pay, which they too often spend in extravagant festivity, until the period arrives when they again depart for the wilderness; yet there are many who take care of their money, purchase land, and finally make good settlers. Timber is collected by farmers, new settlers, and squatters, who also procure great numbers of logs for the saw-mills; but the greatest supplies are brought down by the lumbermen from the interior forests. Mills for the manufacture of timber have greatly multiplied within a few past years. The removal of the exterior parts of the logs, by saws, is favourable to the preservation of the wood, and by it a great saving is effected in the freight. The saws, however, are chiefly applied to spruce, while the pine is shipped in squared logs."

Mr. Perley, in his evidence before the House of Lords, 11th June, 1847, related the following case, as an illustration of the manner in which a woodman may become a farmer:—

"I sent a young man to a first-rate farmer in the country, who wrote to me for an active young man.

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The emigrant, an Irishman from the county of Cork, the son of a small farmer in that county. He brought me a letter of introduction, stating that he was of a decent family. I sent him up to a first-rate farmer, who gave him 30s. currency per month, with which he was not well satisfied; that is equal to 25s. sterling. He had his maintenance and washing and lodging in the farmer's house. He proved himself so active and useful, that in the second month his wages were advanced. Before the close of the season, and the setting in of winter, he had learned the use of the axe very well, and was engaged by a lumbering party in the woods at £5 per month. They found him everything in the woods, except clothing. He proved himself so good an axeman, that at the end of the year, when the men came down with the timber, and he was paid off, he brought to me a sum of £30 currency, and wanted to know what he should do with his earnings. I advised him to buy 100 acres of land, which cost him £12 currency; to put the other £18 in the Savings Bank, and hire out another year, and by that time he would be in a position to establish himself comfortably as a farmer."

Ship-building is largely carried on in New Brunswick. In 1782, the total tonnage of St. John's was 250 tons; in 1795, 4,000 tons; in 1824, 16,000 tons; in 1836, 59,633 tons; in 1839, 80,830 tons. At Miramichi and St. Andrew's, vessels are also built. In 1839, there were 26 vessels, of 9,827 tons, built at Miramichi. Vessels were formerly built by contract, at £5 to £7 per ton, and so imperfectly put together, that the New Brunswick ships obtained a bad name. Since 1810, strenuous and successful efforts have been made to improve the class of shipping, and now the New Brunswick ships are said to equal Thames-built vessels.

There are mines and quarries of limestone, freestone, grindstone, granite, coal, and gypsum, in various parts of the pro-

vince; but the operations are of very limited extent. No authentic information has been collected on the subject.

The number and tonnage of vessels built in the province in 1810, were:—

Ports.	No.	Tons.
At St. John's	62	17,061
Miramichi	14	2,656
St. Andrew's	10	3,077
Total number and tonnage	86	32,793

In 1818, the number of saw and grist mills in the several counties of New Brunswick, was—

In Charlotte County.—16 grist and 103 saw-mills; (in this county there is a small extent of railroad made.)

St. John's.—9 grist and 4 saw-mills; 3 iron-foundries; 1 brass foundry; 3 nail manufactories; 6 brick manufactories; and 1 pottery.

Westmoreland.—53 grist and 181 saw-mills.

King's.—43 grist and 68 saw-mills.

Queen's.—19 grist and 28 saw-mills.

Sunbury.—6 grist and 15 saw-mills.

York.—22 grist and 51 saw-mills.

Carleton.—27 grist and 23 saw-mills.

Northumberland.—18 grist and 33 saw-mills; 1 iron foundry.

Gloucester.—18 grist and 7 saw-mills.

Restigouche.—3 grist mills.

Kent.—13 grist and 31 saw-mills.

Agricultural Produce.—As the forest-land becomes cleared, and population augments, the agricultural resources of New Brunswick will be more fully developed. The following tables show the crops, stock, and land cultivated and granted in each county for the year 1817:—

Crops produced in the Province of New Brunswick, for the Year ending December 31, 1817.

Name of the County.	Wheat.	Rye.	Oats.	Barley.	Buck-wheat.	Other Grain.	Potatoes.	Turnips.	Other Roots.	Hay.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Tons.
York	14,300	117	103,510	2,192	17,615	1,837	259,218	8,641	873	17,025
Carleton	4,970	2,640	197,000	"	116,200	8,940	271,000	23,400	1,157	16,420
Saint John	563	"	9,448	572	3,231	1,052	91,924	8,121	1,296	8,498
King's	13,770	1,116	96,882	1,628	96,543	423	145,208	13,578	1,857	30,672
Queen's	10,131	2,395	72,134	3,6	36,576	596	123,431	5,373	1,089	25,434
Sunbury	4,739	1,673	37,513	154	9,511	719	79,135	2,210	847	8,967
Westmoreland & Albert	41,250	910	151,500	2,700	38,900	12,800	252,400	36,150	3,900	34,310
Northumberland	41,562	1,034	114,970	4,366	1,092	994	271,697	13,226	864	8,368
Kent	17,211	1,352	62,847	3,742	3,063	1,427	197,457	1,573	287	8,651
Restigouche	7,486	167	"	"	312	194	78,543	1,843	573	3,524
Gloucester	21,264	768	38,931	7,781	"	1,148	212,572	2,470	1,648	5,684
Charlotte	9,120	"	67,160	6,918	2,180	1,912	93,476	16,510	1,430	16,880
Totals	189,996	12,802	952,225	30,412	325,316	32,102	1,988,865	133,225	16,121	181,463

The prices of agricultural produce in 1818 were—wheat, 6s. 9d.; rye, 4s.; oats, 2s.; barley, 3s. 9d.; buck-wheat, 2s. 8d.; pota-

toes, 1s. 4d.; turnips, 1s. 6d.; maize, 1s. per bushel. Hay, 10s. per ton.

Stock and Land, cultivated and uncultivated, in the Province of New Brunswick, Year ending Dec. 31, 1847

Name of the County.	STOCK.				LAND.			
	Horses.	Horned Cattle.	Sheep.	Swine.	Pasture.	Cropped and in Hay.	Granted Land.	Uncultivated Land.
					Acres.	Acres.	Acres.	Acres.
York	2,347	9,342	19,832	4,324	25,431	29,437	940,914	1,250,686
Carleton	2,980	11,230	18,430	6,840	28,160	31,350	811,402	1,180,598
Saint John	1,437	5,165	4,708	2,786	16,542	18,146	309,147	105,573
King's	3,116	19,539	27,791	6,978	43,842	51,603	662,752	187,168
Queen's	1,645	10,326	14,922	3,151	28,146	33,173	514,201	477,676
Sunbury	875	4,620	7,810	1,862	6,167	14,210	377,078	405,002
Westmoreland & Albert	6,212	26,540	36,400	7,415	47,500	58,800	811,140	509,684
Northumberland . . .	2,517	11,813	15,134	5,605	8,368	40,248	986,168	1,993,832
Kent	1,450	4,796	9,439	3,460	5,827	19,240	386,398	640,002
Restigouche	1,783	2,150	3,317	1,180	3,652	5,741	156,979	1,109,581
Gloucester	956	4,912	8,124	3,584	6,340	8,230	332,902	701,558
Charlotte	1,325	9,650	14,142	3,384	15,584	20,412	347,245	466,115
Totals	26,643	120,113	180,082	51,169	238,159	350,890	6,606,329	12,309,851

In 1825, major-general Sir Howard Douglas, then governor of New Brunswick, gave a stimulus to the agriculture of the province; assembled the members of the legislature, and other gentlemen, at Fredericton, addressed them in an eloquent speech, and strongly urged extended and careful cultivation of the soil. Agricultural societies were formed, improved breeds of cattle ordered from Great Britain, model ploughs and other rural implements introduced, and a beneficial and lasting impulse was given to husbandry.

The wheat of New Brunswick is of the very best quality: it is much heavier than the American (United States) wheat; weighs 65 pounds to the bushel, or even more. The produce is 15 to 30 bushels an acre. Indian corn is not a certain crop. It requires a light, warm soil, and plenty of manure. The old American rule is to drop 6 grains of corn into each hole:—

One for the cut-worm,
One for the crow,
One for the grub,
And three for to grow.

Oats is a safe crop: the produce is 20 to 40 bushels an acre. In 1844, the potato blight reached New Brunswick from the United States, gradually found its way over the boundary line, and proceeded from W. to E. In 1845, the potatoes suffered as much as in Ireland; but in 1846 the disease disappeared to a great extent, and there was nearly an average crop, of good quality. The produce, on old lands, is from 150 to 400 bushels per acre: 800 bushels may be raised on one acre. Clover is a good crop. White clover is indigenous. Turnip cultivation has been introduced of late years, with great success, for feeding cattle in winter.

The two following cases were submitted in evidence to the House of Lords, 11th June, 1847, in proof of the capability of New Brunswick to receive agricultural settlers. The witness advocated the making of roads, in the first instance, into the wilderness, as a means of opening the country, and of giving temporary employment to the newly-arrived emigrant. He was asked by their lordships:—

“Can you give any account of particular settlements formed in the neighbourhood of those roads?—Two very striking instances of the success attending the formation of new settlements in the wilderness by associations of settlers, having the privilege of making their own roads at a reasonable rate, exist in York County. The Harvey settlement was formed in the forest, on the line of road between Fredericton and St. Andrew's, in 1837, by a party of emigrants, (45 heads of families), from the north of England, who landed in New Brunswick in a very destitute condition. A report upon this settlement was presented to his excellency the lieutenant-governor by the Honourable L. A. Wilnot, the commissioner who formed it, on the 9th February, 1844, accompanied by a statistical return. This report states, that it is shown by the return, that from land where not a tree was felled in July, 1837, there had been taken, during the preceding autumn, 260 tons of hay and straw, and 15,000 bushels of grain, potatoes, and turnips, and that the great success which had attended the labours of these industrious and valuable settlers, afforded an unquestionable proof of what might be done on the millions of wilderness land in New Brunswick. The return shows the number of settlers to be 41, and the value of the improvements to be £4,289 10s. The settlers accompanied the original return with the following observations, written by one of the parties himself:—The climate of New Brunswick agrees well with the constitution of Englishmen; the air is salubrious, and the water as pure and wholesome as any in the world. During the six years of our location but two deaths have occurred, while there have been thirty-nine births without the presence of medical aid. Six years' experience has convinced us, that, notwithstanding the privations to which new settlers are

exposed, diligence and perseverance must ensure success.' This English settlement is rather compact along both sides of the road. The lots were laid out with the usual frontage granted in New Brunswick of 40 rods, with sufficient depth to the rear to give them each 200 acres of land. The settlers were conducted into the wilderness by the blazed line, and they commenced making the road. The price paid them by the province for making and gravelling the road enabled them to purchase provisions, and to maintain themselves and their families, until the time when they had some land cleared, and had secured a crop. They cleared the land themselves. The men who formed the Harvey settlement were the contractors themselves; each man got a certain number of rods to make. They all became purchasers of land. Each person cultivated his own plot. All work upon their own land. Each of them earned enough to pay for a plot of land, and to settle upon it. The price at which they obtained the land was 2s. 6d. sterling an acre; one-fourth paid down, and the rest in one, two, and three years, without interest. They had it at the minimum rate. A man put down upon a piece of wilderness with 200 acres of land, should live upon it the second season, after securing a crop, assuming that, in the first season, he begins too late to put in a crop. The better course is to hire themselves out the first season, and at the close of the year, if they do not get employment for the winter, they have some months to work on their own land. During the winter they chop a piece down, erect a log-house, and get upon the land in the spring. If a man is industrious, and successful in getting his land cleared in the spring, and getting in his crop, he may secure enough that season to maintain himself and his family for the succeeding year. Having done that, he is safe.

"You have given an example of the progress of the Harvey settlement, which was an English settlement. Can you give the committee a similar example with respect to any Irish settlement?—I can mention the 'Teetotal Settlement,' which was an Irish settlement, formed by people from Cork and Kerry. It was formed in 1842, under the same commissioner, by a party of destitute emigrants from the south of Ireland. In a report from the commissioner, dated 25th January, 1844, it is thus stated:—The results of the second effort in which I have been engaged in forming settlements in the wilderness, have afforded me the most unmingled satisfaction. Where but two years ago stood a dense forest there have been gathered, by thirty-five settlers during the past autumn, 7,236 bushels of grain, potatoes, and turnips. The accompanying return shows an estimated value of £1,137 in buildings and clearings; and when there is added to this the market value of the crop, exceeding £800, we have about £2,000 return (exclusive of the making four and-a-quarter miles of road) from a tract of land which, in its wilderness state, would not in the same time have produced a shilling. I cannot now consider the successful occupation of our wild lands by associated bodies of settlers, having the privilege of making their own roads at a reasonable rate, as a doubtful experiment. No antagonist theory can prevail against the practical experience which can now be referred to. Similar management must produce similar results; and I am well persuaded that no other system is so well calculated to promote the improvement of our millions of wilderness acres, and thus to advance the population and commerce of the province."

Notwithstanding the defective state of agriculture in the province, the following crops, per acre, have been produced in different parts of New Brunswick:—

Wheat, 40 bushels, some weighing 68 lbs. per bushel; barley, 40; oats, 60; Indian corn, 75; buck wheat, 75; peas, 40; turnips, 1,000; potatoes, 800 bushels; carrots, 30 tons; mangel wurtzel, 30 tons.

In the report of the York (New Brunswick) Agricultural Society, in 1841, it was stated that the following produce was raised on seven and-a-half acres of land, including a garden:—

"Ten tons hay; 76 bushels oats; 280 bushels potatoes; 3 tons straw; 35 bushels carrots; 20 bushels turnips; 15 bushels beets and parsnips, besides an abundant crop of other garden produce. And from the time that clover was fit to cut for soiling, four cows were liberally fed every night during the season, and two horses occasionally in every week."

A settler at Stanley, on the New Brunswick Company's land, in 1845, thus details the agricultural result of his first year's farming:—

"It may be said that we have longer winters, and less productive soil than in the west, but against this we have healthy climate, and a better market, the summer not so oppressive, nor the winter more severe. Of the soil and its produce, you may judge from the following statement of 20 acres, of which I have taken account, showing the produce, the cost of the land, and preparing it:—

Produce.		£	s.	d.	s.
Oats on 17 acres, 850 bushels at 2s. 6d.		106	5		
Wheat on 3 acres, 72 bushels at 8s.			28	16	
Straw			25	0	
					100 1
20 acres of land, at 6s.		6	0		
Clearing ditto ready for crop, 78s. per acre		78	0		
Oats for seed, 50 bushels to 17 acres, at 4s.		10	0		
Wheat ditto, 5 bushels to 3 acres, at 10s.		2	10		
Harrowing and sowing at 7s. 6d. per acre		7	10		
Harvesting at 15s. per acre		16	0		
					120 1

Profit 40 1

"The item for clearing the land in the above, for the first year, takes much from the show of profit, but is a sum that would not afterwards appear."

Another settler states the produce of 25 acres of land:—

"I have at present 100 acres of land, and about 25 cleared, and all paid; cost me £30 currency, equal to £25 English money. I had five years to pay it. I raised off it last summer 300 bushels of potatoes, 100 bushels of turnips, 100 bushels of oats, beside some wheat and buckwheat, and a great quantity of garden vegetables, and two barrels of pork, which, thank God, I can use in my own family, and not be compelled to sell it to pay the rent, tithes, or taxes; so that I am quite comfortable, but very uneasy about my friends at home."

Mr. McGregor, M.P., late secretary to the Board of Trade, recorded the following instance of successful agricultural industry in

New Brunswick, which came under his observation:—

"On coming down the south-west branch of the river Miramichi, in the autumn of 1828, where the road from Fredericton and the river St. John join Miramichi, I was astonished," he says, "at the unexpected progress made during so short a period (about four years) in the cultivation of the soil. An American told me that when he planted himself there, seven years before, he was not worth a shilling. He has now (1829) more than 300 acres under cultivation, an immense flock of sheep, horses, several yokes of oxen, milch cows, swine, and poultry, a large dwelling-house, a numerous train of labourers, one or two other houses, a forge with a powerful trip-hammer worked by water-power, fulling mill, grist mill, and two saw mills, all turned by water. Near these he had erected a building for the double purpose of a school and chapel, and which he said was open to all persuasions. He raised large crops, ground his own corn, manufactured the flax he cultivated, and the wool of his sheep into coarse cloths; and sold the provisions which his farm produced. In his barn was a heap containing about 90 bushels of Indian corn, that grew on a spot scarcely an acre, which he pointed out to me. He talked much in praise of the rich interior country."

This individual (Mr. Boies) had (1831) probably the best cultivated and as well a stocked farm as there was in the province. He

raised in some seasons, about 1,000 bushels of wheat; a large quantity of oats, Indian corn, peas and beans, turnips, &c.; cuts 200 tons of hay; keeps 30 or 40 oxen, all reared on his farm, employed in the forest hauling out timber; has an extensive dairy; a piggery in which the hogs are reared, fattened, and cured, agreeable to the most approved and economical methods; and every other concomitant to an extensive farm; also a mill for the manufacture, separately, of flour, oatmeal, barleymeal, Indian corn, meal, and flour; a carding mill, &c.

There is an abundance of land in the province available for settlers. The following statement shows the quantity granted and ungranted in each county, and also the Indian lands. It will be perceived that out of 11,715,291 acres of land *fit for cultivation* not much more than half a million (586,979) acres have yet been cleared. The formation of the St. Andrews and Quebec railway, and branch lines, will tend materially to the opening of the country. A tax on wild lands held unproductively would have a good effect:

Granted and Ungranted Lands of New Brunswick.

County.	Cleared land, in Acres.	Wilderness Land.		Granted and located Land.	Ungranted Land.	Total Contents.	Observation.
		Fit for Agriculture.	Unfit for Agriculture.				
Restigouche . . .	11,439	941,341	313,780	156,979	1,103,581	1,266,560	Exclusive of that portion of country also claimed by Canada, and containing 2,700,000 acres additional.
Gloucester . . .	17,575	764,899	254,966	332,902	704,538	1,037,440	
Northumberland . . .	35,764	2,208,177	736,059	986,168	1,993,832	2,980,000	
Kent . . .	28,218	748,637	249,545	386,398	640,002	1,026,400	
Westmoreland . . .	93,030	589,058	196,352	577,440	304,000	878,440	
Albert . . .	32,110	361,088	106,362	233,700	109,850	433,550	
Saint John . . .	27,134	290,690	96,896	309,147	105,573	414,720	
Charlotte . . .	49,135	550,669	183,556	317,245	466,115	783,360	
King's . . .	92,452	568,101	189,367	662,752	187,168	849,920	
Queen's . . .	57,089	678,144	226,047	514,204	447,076	961,280	
Sunbury . . .	17,262	573,614	191,204	377,078	405,002	782,080	
York . . .	59,818	1,606,337	535,445	970,911	1,230,686	2,201,596	
Carleton . . .	65,953	1,894,536	631,511	530,802	2,061,198	2,592,000	
Grand Totals . . .	586,979	11,715,291	3,905,090	6,355,729	9,851,631	16,207,360	

Reserved Lands in New Brunswick for the Indians in 1842.

Reserves.	Aeres.	Total Acres.	Indians	Total Indians	Reserves.	Aeres.	Total Acres.	Indians	Total Indians.
In NORTHUMBERLAND—					RESTIGOUCHE—				
On Little S W. branch of Miramichi river . . .	10,900		43		On Eel river	400		12	
On Little N W. branch of Miramichi river . . .	12,750	33,425	158	401	WESTMORELAND—				
At Burnt Church . . .	1,510		200		On Aboushagan river . . .	250		138	
Tabasineo river . . .	9,935		0		" Memramook river . . .	60			
KENT—					SAINT JOHN—				
On Richibucto river . . .	4,600		188		On Kennebecasis river . . .	15		105	
Buctouche river . . .	3,500	8,100	93	281	YORK—				
GLoucester—					At Indian Village—				
On Pokemouche river . . .	2,900	3,600	75	102	At Meductie river	200		158	
" Nepisiquit river . . .	1,000		27		" Tobique river	200			
					" Madawaska river	700			

Total Acres in the Province, 62,950. Total Indians, ditto, 1,376

Land is now sold in New Brunswick by auction, under the Civil List Act, at 3s. currency per acre, as the minimum upset price. A party desiring a lot of land, applies by petition for the lot that he is desirous of obtaining. If unsurveyed, an order is sent to him for a survey, of which he bears the expense. On the return of the survey, it is advertised one month to be sold in the county where the land lies. If surveyed, upon an application being made it is at once advertised to be sold at the monthly sale. In the one case, the party advances the expense of the survey; and in the other, an established price of 3d. per acre is added to the minimum price of land. The party attends at the sale, and if he purchases, and pays down the money, he obtains a discount of 20 per cent. for prompt payment. If he does not pay for the land, he pays one-fourth, and enters into a bond to the crown for the remaining three-fourths, payable in one, two, and three years, without interest, and receives a location ticket. The money is transmitted by the local deputy to the receiver-general of the province, and eventually finds its way into the general revenues of the country.

Many settlers who arrived a few years ago in New Brunswick, without a shilling, are now the owners of fine freeholds, surrounded with abundance, in a healthy climate, and under the protection of laws of their own making.

The area of New Brunswick is estimated, in round numbers, at nearly 17,000,000 acres; of these, 5,000,000 are said to be granted; 2,000,000 are deducted for water and waste; and the remaining 10,000,000, fit for settlement and cultivation, are in a state of wilderness, ungranted, and at the disposal of government.

According to the New Brunswick Blue Book for 1848, the land granted and sold in New Brunswick, in 1848, under 100 acres, was, 6,639 in 147 grants; above 100, and not exceeding 500 acres, 92,737 in 282 grants; exceeding 500 acres, 15,015. Total number of acres granted and sold during the year, 114,391, of which 46,228 acres were purchased, and 68,163 granted. The average price, per acre, was 2s. 9d.

The number of acres granted in the colony up to 1848, has been 3,915,498; and the number sold, 1,720,296. There remain still to be granted, 13,511,154 acres of land.

From a recent Report of the surveyor-general of New Brunswick upon the present

state of crown lands, it appears that the whole quantity of land sold during the year 1848, amounted to 26,761½ acres, of which 14,777 acres have been paid for in full, and upon which £1789 19s. 3d. have been received; leaving 11,984½ acres, which have been sold under the instalment system, and upon which £473 3s. 4d. have been received.

The timber licences for the past year cover, it is stated, an area of 2,157 square miles, at an average rate of 16s. 8½d. per mile, producing £1,992 8s. The highest rate paid for any one lot was £20 1s. per square mile, being a licence for 9 square miles, situate on the left bank of the river St. Croix, about 25 miles above St. Stephen. The quantity of land under licence in 1847 was 5,360 square miles, which produced the sum of £3,585 7s. 9d., the highest price paid per square mile being £5, the whole quantity averaging only 10s. 5½d. per square mile.

The immigration into New Brunswick, during the year 1848, amounted to only 4,020 persons, being a decrease, as compared with 1847, of 11,249, and as compared with 1846, of 5,745 persons.

The Blue Book for 1840, contains the following:—

Prices of Provisions.—Wheaten flour, per barrel of 190lbs., £1 9s. 3d.; wheat, per imperial bushel, 5s. 5d.; wheaten bread, per lb., 2d.; horned cattle, £7 10s.; horses, each, £25; sheep, per score, £13 10s.; swine, each, £2 10s.; milk, per quart, 3½d.; butter, 9d.; cheese, 7d.; beef, 3d.; mutton, or pork, 4d.; rice, 3d.; coffee, 10½d.; tea, 3s. 7d.; sugar, per lb., 8d.; salt, per bushel, 1s. 4d.; wine, 10s.; brandy, 9s.; beer, per gallon, 1s. 9½d.; tobacco, per lb., 1s. 6d.

Wages for Labour.—Domestic, 30s. to 60s.; predial, 30s. to 45s., with board and lodging, per month; trades, 4s. 6d. to 8s. per day.

Fisheries.—New Brunswick possesses a coast line of 500 miles in extent, admirably adapted by its deep bays, coves, and inlets, for piscatory pursuits.

The colonists complain that they are not protected from the depredations of the Americans, who, contrary to treaty, and to national rights, fish within three miles of the land, and carry off their prey, despite of cruisers or coast guard. Dr. Gesner says, the fisheries of New Brunswick, if duly protected, and pursued with energy, would form one of the principal sources of her

wealth and prosperity. The coasts, indented by numerous harbours, bays, and rivers, afford every facility for shore and deep-sea-fishing; and although the practices of the Americans have annually reduced the numbers of the finny tribes, they are still sufficiently numerous to render the employment, under proper management, profitable. But, from causes already adverted to, the demand for timber and a scanty population, the fisheries are not pursued with energy, and the fishermen lack the stimulus of the bounties given to the Americans, with whom they are unable to maintain a competition.

The whole number of fishing vessels belonging to the ports and harbours of the Bay of Fundy side of the province, in 1840, was only 65. Their burthens were from 10 to 30 tons each. The present number, including 20 belonging to Grand Manan, will not exceed 70, exclusive of shore-fishing-boats. That island alone, with a proper population, could employ advantageously 100, and the whole coast 600. The number of fishing vessels belonging to the United States, and fishing in the same waters, is as 10 to 1. The fishermen of the province, with few exceptions, are far less persevering and industrious than the Americans, or even the people of Nova Scotia.

The larger vessels fish for cod on the banks. The shore-fishing is carried on in boats; but they are often very imperfectly supplied with fishing-tackle, and the catch is limited. There is an annual decrease in the number of codfish along the shores, while the haddock are quite as plentiful as they were in former years—a circumstance arising from the fact that the “garbage” thrown into the sea is more destructive to codfish than to haddock. Halibut, hake, and other kinds of fish, are taken by the baited codfish hook; pollock are trailed for in swift water. Herring are taken in nets, but the greatest quantities are caught in “*wares*.” These are circular enclosures of strong stakes, driven into the beaches near low-water mark, and interwoven with brush-wood. At high-water they are covered by the sea. When the tide recedes, the fish are enclosed in the ware, and left dry. The enclosure is sometimes made with strong nets. Sweeps are also made by large seines. It frequently happens that a much larger quantity of herring are taken in a single tide than can be secured by the fishermen, or perhaps more than their stock will cure. In such instances, great quantities of dead

fish are washed away, and which, with the offal thrown into the water, are no doubt a great injury to the fisheries; yet little attention is given to this abuse of one of the best temporal gifts of Providence. Five hundred and even one thousand barrels of herring are sometimes taken in one of these wares in a single night-tide. Dr. Gesner states, that he has never known an instance on the shores of the Bay of Fundy, where the proprietors of one of these wooden cages were prepared to secure a large catch, or “haul,” as it is frequently called.

These “wares,” erected in the commencement of the fishing season in almost all the bays, harbours, and creeks, are frequently leased to the Americans, who catch, cure, and smoke the fish upon the shores by the consent of the inhabitants, and in direct violation of the Treaty of 1783, and the Convention of 1818. In Passamaquoddy Bay, they fish for cod within a quarter of a mile from the British islands. The advantages of the people are thus sacrificed, often for small supplies of American goods, which are called for by their pressing necessities, the offspring of their idleness, and the relinquishment of their rights. That the fisheries are capable of supporting an extensive trade, and of affording ample remuneration to individual exertion, is certain, from the success that always attends the labours of those who pursue them with activity and energy. In 1839 (which was an unfavourable season for fishing), William Gubtail purchased for his son a boat of 11 tons burthen, for which he paid £100. With this small vessel, the son, with four men whom he had hired, not only cleared the expenses and purchase-money of the vessel, &c., but supported the whole of his father's family during the whole of the winter. Between the months of May and October of 1840, he made three trips to the deep-sea-fishing, and caught 250 quintals of codfish. Twice he went to the herring fishing, and landed 170 barrels. He also made a third voyage for herrings. Thus, in less than six months, he cleared double the value of his vessel, paid his expenses, and supported his family.

Many of the inhabitants of the coast and islands engage in the different employments of agriculture, fishing, and lumbering; but as might be expected, they are unsuccessful in each of those branches of labour. They plant a few potatoes, and fish in boats during the summer. In winter they embark for the forest, shoot, or remain idle. Many

who take large supplies of fish during their season, are compelled to purchase them from the trader during the cold months at a high price. These observations will not, however, apply to the whole fishing population, of whom exceptions are to be made for a few individuals who live comfortably, and have, by their industry, gained an honest independence. The present degraded and unprofitable state of the fisheries has resulted from the violations of the convention by the American fishermen, who obtain bounties on fish taken and cured upon British shores, and the indifference of the coast settlers, who remain contented with a precarious subsistence, the result of idleness, rather than earn a comfortable competency. As natural consequences, poverty, and sometimes absolute misery, is too often seen among them, and the resources of both the sea and the land are unproductive in their hands.

Mackerel may be taken in the Bay of Fundy from the 1st of May to the middle of October. They are taken by hooks, or on jigs; nets are seldom employed. Mackerel fishing is not followed with much enterprise, and is therefore seldom profitable. The principal shad fisheries are those of the St. John and Peticodiac. Salmon are taken in the small bays and large rivers in nets, or speared during the dark hours of the night. Shad and gaspereau are caught in nets. A fish called menhaden, which resembles a small shad, although plentiful, is not deemed profitable. Porpoises are shot by the Indians during the summer for their oil. Lobsters and other shellfish are abundant. Whales are seen upon the coast at all seasons, but no attempts are made to capture them.

The Mechanics' Whale-fishing Company, and C. C. Stewart, Esq., of St. John, are engaged in the whale fishery of the Pacific Ocean. The exports of whale oil from the province average about 100,000 gallons, and of sperm oil 50,000 gallons per annum.

The fisheries on the N.E., or Gulf of St. Lawrence coast of New Brunswick are not in a more prosperous state than those of the Bay of Fundy, except at Caraquette, which exports from 8,000 to 10,000 quintals of dry fish annually. The encroachments and contraband trade of the American fishermen are even more daring in the Gulf than along the Atlantic coast.

Cod-fish are still abundant on many of the banks and shoals, and great facilities

are offered for shore-fishing. Haddock, pollock, and halibut are very numerous at certain seasons: with these there are immense shoals of herring. Caplin are sometimes carted on the fields for manure. Salmon frequent all the rivers; but since the erection of saw-mills their numbers have decreased. Gaspereau and smelts are taken in the principal streams; and sea trout enter the lagoons.

Mackerel may be taken in the Gulf of St. Lawrence and Bay Chaleurs from May to October, and large catches are made by the American fishermen. In summer the mackerel are lean, but in the autumn they are remarkably fat and of large size. Lobsters, clams, and other shellfish are plentiful. Oysters are shipped from different parts of the shore to Quebec, Halifax, St. John, and other places. In the early settlement of the country, walrus were taken, and they are still occasionally seen. There are two varieties of seals. Whales pursue the fish into the Gulf during the summer, but no attempts are made to capture them. From the rapid increase of population, it would naturally result that the exports of fish would be enlarged; yet, from causes already adverted to, the fisheries advance but slowly, and unless they are protected by the government, they will be altogether in the hands of the French and Americans. These inexhaustible maritime resources are neglected, and a general apathy prevails towards the improvement of those blessings Providence has so abundantly dispensed in the waters of the coast. The foregoing remarks are almost entirely derived from the personal observations of Dr. Gesner, who expresses himself strongly against the "encroachments of the Americans."

The exportation of the produce of the fisheries of New Brunswick in 1830 was, of—

Dried fish	27,825 crots.
Pickled fish	21,177 barrels.
" " " " "	2,783 kegs.
Smoked fish	4,952 boxes.
" " " " "	5,350 number.
Fish oil	12,302 gallons.*
1831. Value.	
Dry cod, 26,559 quintals	£15,188
Wet cod, 693 barrels	583
Herrings, 3,653 boxes, 365 barrels	709
Mackerel, 3,011 barrels	2,564
Salmon, 869 barrels	1,787
Other sorts	5,564
Train oil	9,577
Total	£35,972

* Colonial System, by Henry Bliss, Esq., p. 58. London, 1833.

	1835.	Value.
Fish, dried		£12,894
" pickled		21,269
" smoked		1,944
Oil, cod liver		819
" seal		1,088
" whale		10,988

Total £49,032*

	1839.	Value.
Fish dried, 23,594 quintals		£16,227
" pickled { 16,656 barrels		19,812
" 6,242 kits		
" smoked, 14,365 boxes		6,854
Oil, whale, 78,327 gallons		7,720
" sperm, 15,877 "		3,969
" cod, 12,827 "		1,727
Whalebone, 236 cwt.		1,323

Total £57,632†

	1844.	
Pickled salmon	6,479 barrels, 5419 kits.	
Smoked "	406 boxes.	
Mackerel "	24 barrels.	
Dried fish	12,405 quintals.	
Alewives & shads, salted	16,346 barrels.	
Codfish, pickled	214 barrels.	
Herring, salted	1,754 barrels.	
" smoked	7,308 boxes.	
Seal oil	240 gallons.	
Cod oil	5,774 "	

The above return does not include the Port of St. Andrew's and its outbays.

	1845.	Value.
Fish, dried, 8,842 quintals		£5,526
" salted 17,923 barrels		13,444
" smoked, 10,058 boxes		2,514
" oil, 71 barrels		213
Total		£21,697

In 1847, the exports of fish from the port of St. John were, dried, 13,022 quintals, value £7,374; salted, 18,861 barrels, value £15,078; smoked, 11,020 boxes, value £1,136; oil, 3,507 gallons, value £318. From St. Andrew's, in the same year, the fish exported was valued at £5,379.

The legislature of the province have recently offered a small tonnage bounty on fishing-vessels; but the whole sum granted for that object was too small to have any beneficial effect upon fishing industry, which will be observed to be on the decline.

Property.—By a statement made in 1833, in New Brunswick, the value of property in the province was stated to be—city, seaport,

and inland towns, villages, &c.; agricultural produce, implements, and live stock, £3,000,000. Marine and inland navigation, £575,000. Saw, grist, and fulling-mills, £125,000. Total, £4,000,000. This amount must now be largely increased. There is a great spirit of public improvement in the province. A railroad is in progress of construction from St. Andrew's to Fredericton; to be continued, if the funds can be obtained, to Quebec; and New Brunswick may not only be considered one of the most eligible colonies of the British empire for the location of emigrants, but also one of the most thriving and loyal portions of the dominions of our gracious sovereign.

The recent Lieutenant-governor of New Brunswick, Sir W. M. G. Colebrooke, who has had considerable experience in the administration of colonial government, and received the high commendation of successive Secretaries of State for the Colonies, paid the following tribute to New Brunswick, in a despatch to Earl Grey, dated St. John's, New Brunswick, 8th April, 1818, when transmitting the annual report on the Blue Book for the year:—

"At the close of an administration of seven years, it is due to this province to bear my testimony to the value of it, as one of the most important possessions of the crown. The spirit with which its hardy and persevering inhabitants have, in sixty years, triumphed over the difficulties opposed to them in the settlement of such a country, and accumulated so large an amount of agricultural, maritime, and commercial wealth, is an earnest of the success which will attend their future labours, aided by the co-operation of British enterprise and capital. In the present advanced state of the arts, and the recent triumphs of skill and science, which have contributed so largely to unite the families of mankind, and to diffuse to the remotest quarters the blessings of civilization and improvement, the progress of this fine province cannot fail to be accelerated, and its connection with the United Kingdom strengthened and cemented, a result which will assuredly be productive of great reciprocal benefits."

not specified; the table therefore only refers to the exports of the Port of St. John for that year.

* Colonial tables, Murray, vol. ii. p. 250.

† In the custom-house returns of the outports of New Brunswick, the articles exported in 1839 are

BOOK IV.—PRINCE EDWARD ISLAND.

CHAPTER I.

GEOGRAPHICAL POSITION, AREA, AND HISTORY.

PRINCE Edward Island (formerly called St. John's) is situated in a recess or bay in the Gulf of St. Lawrence, and lies between $45^{\circ} 50'$ and $47^{\circ} 7'$ N. lat., and between 62° and $64^{\circ} 27'$ W. long. It is separated on the W. from New Brunswick, on the S. from Nova Scotia, and on the E. from Cape Breton, by the Straits of Northumberland. The nearest points of Prince Edward Island to the neighbouring provinces are, West Cape, which is 11 miles from Richibuctoo in New Brunswick; Cape Traverse, which is 9 miles from Cape Tormentine in Nova Scotia; and East Cape, which is 27 miles from Cape Breton Island. Its exceedingly irregular outline somewhat resembles a crescent in its general appearance, the concave side being towards the gulf, into which its boundary capes project. A line drawn through the centre of the island would measure about 135 miles; its extreme breadth is 34 miles; and its area is estimated at 2,134 square miles. Who first discovered it does not appear to be clearly established. Robertson, Bonchette, and McGregor, speak of it as the first land seen by Cabot after his discovery of Newfoundland in 1497, and suppose it to have been afterwards re-discovered by Verazani; but Murray remarks that the former conclusion seems wholly inconsistent with Hakluyt's brief narrative, and that the latter is not justified by Verazani's own account of his voyage. Be this as it may, it is mentioned by Champlain under the name of St. John, and its situation and extent are accurately described. It was included by the French in the vast territory called New France, and in 1663 was leased or granted, together with the Magdalen, Bird, and Brion Islands, to the Sieur Doublet, a captain in the French navy, to be held as a fief tenure, under a fishing company established at the island of Miscou. Little progress, except the establishment of a few fishing stations, was made, until after the treaty of Utrecht in 1715, when many French families

removed there from Acadia, and by their account of its fertility allured settlers from Cape Breton; but in this they were discouraged by the French government, who were desirous of making the latter place the centre of their power in America. In 1745 it was captured by the New England forces, but subsequently restored by the treaty of Aix la Chapelle. In 1758 it was re-taken, and permanently annexed to Britain; the number of inhabitants at this period is stated by Haliburton as 4,100. The island was well stocked with horned cattle; a considerable portion of it had been brought under cultivation, and some of the farmers raised annually 1,200 bushels of corn for the Quebec market. For the two preceding years Prince Edward had been the resort of the Mic-Mac Indians, who, assisted by the French, had made many sudden incursions into Nova Scotia, and committed fearful barbarities on the English colonists. When Lord Rollo took possession of the French governor's house, he there found several English scalps hung up as trophies. In consequence of the determined hostility manifested by the Acadians of Prince Edward Island, they were included in the order for the removal of their countrymen from Nova Scotia, and a large number were shipped off to the neighbouring continent, and to the southern colonies. Some were sent to France, where they were but ill received, and upbraided for the systematic aggression which had so materially conduced to undermine the dominion of France in North America. In 1763, the island was confirmed to Britain, and was included in the general survey of the British empire in America in 1764, which the first American war put a stop to on the continent. The survey of the island being completed in 1766, various schemes for its cultivation and settlement were proposed; amongst others, the Earl of Egmont, then first Lord of the Admiralty, proposed settling it on a feudal plan, his lordship to preside as lord para-

mount, with a certain number of baronies to be held from him, each baron to erect a castle or stronghold; maintain a certain number of men-at-arms; and, with their under-tenants, to perform suit and service, according to the custom of the ancient feudal tenures of Europe. This strange scheme was rejected as impracticable, but another almost as extraordinary was adopted in its stead. It was resolved to grant the whole island to individuals considered to have claims upon the government (principally officers of the army and navy, who had served during the war), on certain conditions prescribed by the then Board of Trade and Plantations. The number of applications being very great, it was arranged that the grants should be drawn by way of lottery.

The land was divided into townships, (each containing about 20,000 acres), some tickets being a prize of a whole township, others of half, and others of a third. By the conditions annexed, the holders of 26 of the townships were to pay six shillings per annum for each 100 acres; the holders of 29 other townships, four shillings per annum for the same quantity; and the holders of 11 other townships, two shillings per annum; all being equally bound to settle their land in the proportion of one settler to each 200 acres, within 10 years from the date of their grants, which, in the event of their failing to do, were to be declared void. Prince Edward Island being then included under the same government as Nova Scotia, it was necessary for the governor to pass grants of the townships to the holders of the tickets; the *mandamus* under the king's sign manual commanding him to do so, bears date August, 1767; and the whole island passed from the crown in a single day, excepting only the small reservations for three intended county towns and two townships, which had been previously partly occupied, with the permission of government, by a fishing company. The result was anything but satisfactory. Mr. John Stewart, to whom I am indebted for much valuable information on the subject, says, that many of the holders of the tickets had never any intention of expending either their time or their money in settling the island, and had used their interest only for the sake of obtaining a saleable commodity. The grants were, therefore, very soon brought into the market: some of them at first fetched £1,000 each; but as the supply

quickly exceeded the demand, the price diminished to one-half, the greater number sold being purchased by a few individuals on speculation.

With the idea of promoting the settlement of the island, a large majority of the proprietors petitioned the king that the colony should be erected into a separate government from Nova Scotia; and, in order to defray the expense of this alteration, they offered to commence paying the one-half of their quit rents on May, 1769, although, by the terms of settlement, they were only to become payable on Michaelmas day, five years after the date of the grants, while the payment of the other half was to have been postponed for 20 years. Their proposal was acceded to; and, in 1770, a governor (Mr. Paterson) and other officers arrived. At this time there were not more than 150 families and five proprietors on the island. After ten years little was found to have been accomplished: a few enterprising and conscientious persons acted up to the spirit of their engagement, among whom was Sir James Montgomery, then Lord Chief Baron of the Scotch Court of Exchequer; but the greater number shamefully neglected the duties they had voluntarily undertaken. Had all the proprietors acted together, a fine and thriving settlement would, in all probability, have been speedily established; but, as it happened, the whole burthen was thrown upon a small number, who were quite unable to sustain the load so unjustly imposed on them, notwithstanding the vigorous efforts they made to do so. Tracadie was settled by Captain Macdonald, with 300 Highlanders, and the governor induced many exiled and other Acadians to establish themselves in the island. In some instances, poor settlers were landed in different townships, far from any other inhabitants, without proper provision being made for their immediate wants. Many, therefore, abandoned the place in disgust, and spread unfavourable reports of the colony, by which its settlement was greatly retarded. Another obstacle is said to have arisen from the proprietors being unable to grant that so-called tenure under the crown which is esteemed the most secure. The colony progressed, however, though but slowly; and as at the time of its being erected into a separate government, the representative of the sovereign had been authorized to summon a general assembly whenever he should deem the island sufficiently settled, Governor Paterson, in 1773,

called the first meeting of the Provincial Legislature.

In November, 1775, two armed American cruisers, taking advantage of the defenceless state of the island, landed at Charlotte town, plundered it, and carried off the acting governor, a member of the council, and the surveyor-general; but on the commanders proceeding to the American head-quarters, they were rebuked by general Washington, told, they had "done those things which they ought not to have done, and left undone what it was their duty to have done," and dismissed from their command. The prisoners were instantly set free, with many courteous expressions of regret for their sufferings, and the plundered property was entirely restored.

It is a pleasing duty to record an act, so perfectly in unison with the noble character of Washington.

In 1776, it being found that the few proprietors who paid their quit-rents did not contribute a sufficient sum to defray the expenses of the government, and the governor being unwilling to proceed against the defaulters, who were generally persons of rank and influence in England, an application was made to parliament for an annual grant to defray the civil expenditure, which application was complied with.

Both governor Paterson, and general Fanning in 1789, are accused of having greatly impeded the cultivation of the land, by endeavouring to monopolize it, to the detriment of the settlers with whom they were constantly at variance. The late duke of Kent, then commander-in-chief of the North American colonies (where, at two different periods, he resided ten years) paid much attention to the island; organized the formation of some provincial troops, cavalry and infantry, and the erection of batteries for the better protection of Charlotte town; the result of these precautions, was the preservation of the colony, during the war, from any molestation. It was at this period that the name of the island having been found inconvenient, from being the same as those of the chief towns in New Brunswick and Newfoundland, it was changed from St. John to Prince Edward, as a mark of grateful attachment to one who well deserved it. In August, 1800, the duke sailed for England, to the sincere regret of the North American colonists, in whose prosperity he had shown himself warmly interested. In 1801, the arrears of quit-rents amounted to £59,162,

being, in many instances, considerably more than the townships would have realised if put up by auction. Government therefore determined to accept a moderate composition which should fall lightest on those who had made the most efforts to settle their land. The townships, whose proprietors were in arrears for quit-rent, were accordingly divided into five classes: 1st. Those which had the full number of people required by the terms of the original grants, were only to pay four years' quit-rent, in lieu of all arrears from 1769 to 1801. 2nd. Those with half the population were to pay five years' quit-rent, in lieu of all arrears. 3rd. Those with from a quarter to half the stipulated number, nine years' quit-rent. 4th. Those with less than a quarter, twelve years' quit-rent; and 5th. The owners of those which were wholly waste and uninhabited, were called on to pay fifteen years' quit-rent *i. e.*, less than half the amount owed by them.

The liberal terms of this composition, by freeing the land from heavy claims, had an almost instantaneous effect on the prosperity of the island, which made rapid strides in population and social comfort. Some proprietors, nevertheless, did not avail themselves of this commutation, and waited for easier terms; it became, therefore, necessary to proceed against them, and in 1804 judgment was obtained by the receiver-general of the quit-rents against ten townships, five half-ditto and one-third ditto, which were escheated to the crown for non-payment of the quit-rents. It is much to be regretted that the rents had not been annually exacted, instead of being allowed to accumulate for so long a period, as the holders of the land would probably have then endeavoured to improve the culture of the land, instead of suffering it to remain a useless waste. In 1803, the Earl of Selkirk took over about 800 Highlanders, and by his strenuous exertions, enabled them to attain a very prosperous condition; with the friends who have since joined them, their number now amounts to above 4,000. Governor Desbarres succeeded Fanning, who was followed by Colonel D. Smith in 1813; the latter was recalled in 1823 for tyrannical conduct, which had caused much agitation in the colony. Lieutenant-colonel Ready was appointed in his stead in 1823. Colonel Young received the appointment in 1831, and was succeeded by Sir John Harvey in 1836. Sir John was removed to New Brunswick in 1837, and his place supplied by Sir Charles Fitzroy until

1841. Sir H. V. Huntly was the next lieutenant-governor, and was succeeded by the present lieutenant-governor, Sir Donald Campbell, in 1847.

The colonists have been endeavouring to establish a court of escheats to confiscate the lands of absent proprietors who have not complied with the terms of their grants, so

that large and fertile tracts might be opened for agricultural industry. Her majesty's government have not agreed to this proposition, but have sanctioned the imposition of a tax upon lands so situated, which has had the effect of stimulating some of the proprietors to settle their grants; and will increase the revenue of the colony.

CHAPTER II.

PHYSICAL ASPECT—TOPOGRAPHY, GEOLOGY, AND CLIMATE.

THE general appearance of Prince Edward Island is extremely pleasing, though it has nothing of the romantic boldness which characterize the northern shores of the Gulf. The surface, like that of New Brunswick, gently undulates, without any absolutely flat country, but no where reaches the elevation of mountains, the principal high lands being a chain of hills traversing the island nearly north to south, from De Salje to Grenville Bay.

The whole island was once covered with forests of beech, birch, maple, poplars, spruce, fir, hemlock, larch, and cedar, and although the labours of the lumbermen, the progress of cultivation, and many destructive fires, have greatly thinned their rich luxuriance; yet still they spring up spontaneously and adorn the land, which is clothed in verdure to the very edge of the water. According to Dr. Gesner, peat bogs are very numerous, although few of them are of any great extent. The largest and most valuable deposit is on the S. side of Casumpec harbour. It contains a buried forest, and, as the quality of the peat is very superior, will, in course of time, be valuable for fuel.

The constant action of the strong tidal waters of the Gulf of St. Lawrence, has caused the island to be indented, and intersected by bays, creeks, and inlets, which are so numerous and extensive, that scarce any part of the territory is more than eight miles distant from tide water. Of the numerous harbours the principal is that on which the capital, Charlotte town, is built, situate on the S.E. side of the island, at the bottom of Hillsborough Bay, and at the confluence of the three rivers—Hillsborough,

York, and Elliott. The haven is one of the most secure in the Gulf of St. Lawrence, though not more than half a mile wide at the entrance: it has several batteries protecting it, and if occasion required, could be placed in a situation to defy attack from seaward.

The land on which the town is built rises gradually to a moderate height above the sea, and has a maritime communication, by means of the three rivers before-mentioned, with a considerable portion of the island. The Hillsborough river (or rather an inlet of the ocean) flows past the town to the eastward, with a depth of eight fathoms, so that the largest ships may anchor close to the capital, and vessels of 200 tons go up the Hillsborough river, 14 miles above Charlotte town. Each of the rivers, Hillsborough, York, and Elliott, have a sufficient depth of water for the largest vessels for several miles, where they may lie secure from all winds, and the tides are so strong as to enable ships to work out and in against a contrary wind; the rise at full and change being nine feet, and at neap, four to five, with soundings of soft mud or strong clay.

The town appears from the harbour to great advantage, the streets are broad, and regularly laid out at right angles, with five or six vacancies for squares; most of the private houses have neat gardens attached, and together with the public buildings, such as the Court-house (in which the Courts of Judicature, as well as the Legislative Assembly, sit), the Episcopal church, the New Scots Church, the Roman Catholic and Methodist chapels, excellent barracks, &c., give a decidedly prepossessing aspect to the capital of this interesting colony.

The Colonial Building in Charlotte town

cost £14,500, was commenced in 1813, and is now finished.

The island is almost naturally divided into three counties, viz., Prince's on the W., Queen's in the middle, and King's on the E. Prince's county contains five parishes, viz., North, Egmont, Halifax, Richmond, and St. David's, which comprise 467,000 acres, exclusive of a reservation of 4,000 acres for Prince town and royalty. It has several fine harbours; two on the N. shore are very valuable, as the winding coast forms a deep curve in which it is dangerous for vessels to be caught in a stiff N.E. wind, in which the points of the island E. or W. cannot be cleared, and a ship must therefore run on shore, or else seek one of the large barred havens, into which two or three high seas will cast her safely.

Richmond Bay, the largest in the island, is barred with a sand bank, over which there is from 12 to 15 feet water; from its wide entrance and great extent (being 9 miles wide, and 10 miles deep), the centre part is of course unsheltered, but there are several inlets perfectly safe from all winds, with from 3 to 4 fathoms good anchorage. There are six beautiful islands in the bay, three of which have an area of 500 acres of good land. Seven townships, containing 110,000 acres, abut on this bay, which has the advantage of a safe inland water communication along the coast, by means of Cavendish channel, with the fine harbour of Holland Bay to the N.W. On a fertile peninsula projecting from the eastern-coast of Richmond Bay, Prince town has been laid out, but the intended site is occupied by straggling farms. The settlers are chiefly of Scottish descent, many of them being the descendants of those from Cantyre, who settled with Judge Stewart's family, and who retain the habits and superstitions that were formerly so prevalent in their native country, while the music, the songs, the tales of the Covenanters, and the ghost stories of Kirk Alloway have all the freshness of yesterday; indeed, it is not a little remarkable that many of the ancient customs and traditionary stories, now passing away, and nearly forgotten in England, Ireland, and Scotland, are religiously remembered and preserved in our colonies. The surrounding tract, called the Royalty, is well cultivated.

Lennox Island, situate on the N.W. of Richmond Bay, is the chief meeting place of the remnant of the Mic Mac Indians. Still further N., is Holland Bay, which is

safely accessible, but narrowed by islands at its entrance; its chief harbour, called Cascumpee, is extremely commodious, and well situated for the fisheries. Between this bay and that of Richmond, an extensive range of sand mounds have been formed by the waves, between which and the main shore is a lagoon, eighteen miles in length, and from one to three hundred yards in breadth. The shores of the lagoon are uninhabited. The fertile land round Holland Bay, is cultivated chiefly by Acadians, who have also a settlement called Tigniche, near the North Cape. From thence to West Cape there is no harbour except for boats; and a large portion of rich soil, though clothed with excellent timber, and watered by several fine streams, is still unoccupied. After passing West Cape, we arrive at Egmont Bay, which is sixteen miles wide and ten feet deep, with dangerous shoals off its entrance, and only affording shelter in N., N.E., or N.W. winds. On its eastern boundary are three Acadian villages. Halifax, or Bedeque Bay, is a spacious inlet, reaching nearly across to Richmond Bay on the opposite coast,—Wilnot and Webber Cove being only about five miles apart. It has a fine harbour, well sheltered by a small island, and is increasing in importance as a shipping port. The banks of the two small rivers which empty themselves into the harbour are populously settled, and there are several ship-building establishments.

Queen's County adjoins Prince's county on the S.E., and extends about 40 miles, embracing the whole width of the island. It contains five parishes—Grenville, Charlotte, Bedford, Hillsborough, and St. John; 486,400 acres being comprised in them, exclusive of the 7,300 reserved for Charlotte town and royalty. The N. coast of this country is extremely picturesque, but possessing few harbours, except for schooners and small vessels; their names and positions will be sufficiently shewn in the map; this portion of the coast is tolerably well settled, chiefly by Scotchmen and Acadians. On Grenville Bay and the banks of its small tributaries, are situated New London, Elizabeth town, Campbell town, and other settlements; that of Cavendish, at the E. end of the bay, is remarkably flourishing. Harrington, or Grand Rustico Bay, has a long narrow island across its entrance; on its shores are two Acadian villages, and on the banks of its tributary streams, Hunter and Whately rivers, are some thriving settlements: one of these, called New Glasgow,

is peopled principally by emigrants from the city of that name. On Little Rustico, or Stanhope Cove, is a tract of very fertile land containing many extensive farms. Eastward to Bedford Bay, and from thence to Savage Island, the coast is more or less occupied by settlers principally of Scottish descent. The south coast of this county abounds in safe havens. Tryon village, nearly opposite Green Bay, or Baie Verte, in Nova Scotia, is one of the most populous and pleasantly situated places in the island. Crapaud and De Sable are also rather thriving settlements. On the eastern side of Hillsborough Bay is the district of Belfast, which includes the thriving villages of Great and Little Belfast, Orwell (on the bay of that name), Pownalls, Perth, Belle Creek, Wood Islands, and others, chiefly formed by Lord Selkirk's colony.

King's County—comprises the eastern portion of the island, and is divided into four parishes, East, St. Patrick, St. George's, and St. Andrew's, which include 412,000 acres, exclusive of the 4,000 acres reserved for George town and Royalty. The town plot has been laid out near the confluence of the Cardigan, Montague, and Brudenelle rivers, or rather on a peninsula formed by them, and although little progress has yet been made, its excellent harbour, good fisheries, and advantageous position for trade in the Gulf of St. Lawrence, will probably render it a place of considerable importance. The coast land from Savage Harbour (between King's and Queen's county) to the Bay of St. Peter, is termed the Lake Settlement, from its bordering on a pond or lagoon, which has an outlet into the Gulf. The Bay of St. Peter, into which the river Morel falls, is about nine miles long, with a narrow mouth, and pierces the coast, forming the peninsula of Greenwich. The lands fronting the bay have been greatly improved by the Messrs. Worrel, who have built granaries, grist mill, and offices on a large scale. From Greenwich to East Cape, the whole line is without a harbour. It is called the District of the Capes, and is well cultivated by settlers from Scotland and the Hebrides, who raise large and valuable crops of wheat, barley, &c. On the east shore are Colville, Rollo, Fortune, Howe, and Boughton Bays, all small harbours with thriving settlements of Highlanders and Acadians. We have now reached Cardigan Bay, on which George town, the intended chief town of the district is situated. It receives

(as before mentioned) three rivers, of which, however, the largest does not flow above twelve miles, and forms a spacious harbour, with a deep and safe entrance. Pamure Island, situated at the entrance of the harbour, contains 800 acres of excellent land. In St. George's parish are several safe but small havens, all more or less sand-barred. St. Andrew's, at the mouth of the Montague, is a rising village. Murray Bay, in the parish of St. Andrew's, affords a well sheltered harbour, with a rather intricate entrance. Ships, brigs, and schooners are built here. The soil around is very fertile, but has not been many years under cultivation. The foregoing brief description is sufficient to show how admirably adapted Prince Edward Island is for carrying on an extensive fishery, while its level surface, abundantly irrigated, renders it equally favourable to the pursuits of agriculture, and with its singularly salubrious climate, make the little island an attractive spot to intending emigrants.

GEOLOGY.—Prince Edward Island is a pastoral country—neither limestone, gypsum, coal, nor iron, have yet been discovered, but in many places the earth and rivulets are deeply impregnated with metallic oxides; the soil is in general a light reddish loam—in some places approaching to a tolerably strong clay—in most districts more or less sandy, but where the latter inclines to a dark colour, it is very fruitful. Red clay for bricks, and white for common pottery purposes, are met with in abundance. The predominating rock is a reddish sandstone, but occasionally, blocks of granite are met with; in fact, the whole island seems to have been left dry in latter ages by the waters of the Gulf of St. Lawrence.

The following is an abstract of the geological survey of the island by Dr. Gesner, which, although long, is too valuable to admit of further curtailment:—

“Hillsborough Bay is an expanded sheet of water, situated between St. Peter's Island and Point Prim. It embraces three lesser bays, and receives a number of rivers. Of the latter, Hillsborough, York, and Elliot, or North River, are the most important. These, when united, form the harbour of Charlotte town, the capital of the island, which stands upon the extremity of a peninsula at the junction of these three streams. At this place the survey was commenced, and the descriptions will be given in the order in which they were made.

“The rocks are most advantageously examined in this quarter at the entrance of the harbour, which is only half a mile wide. They here present perpendicular cliffs from 10 to 20 feet in height; they are

frequently undermined by the waves and currents, and are sometimes seen in heaps of *debris* that have fallen on the beaches. All these rocks belong to an extensive group of red sandstones that form the basis of the island, and also appear on the neighbouring coasts of Nova Scotia and New Brunswick. At the mouth of the harbour they consist of brick-red sandstones, micaceous sandstones, gray sandstones, marly clay, and red shales. The general direction of the strata is E. and W., and the dip is from 10 to 15° N. The strata are covered by *debris* from those rocks, sometimes to the depth of 20 feet. The soil is also red, and frequently underlain by a subsoil of stiff red clay.

"The shores of east, north, and west rivers are seldom bounded by cliffs, but descend gradually to the water, being frequently skirted by tracts of peaty ground, salt marsh, and a mixed alluvium; the rocks are similar to those above-mentioned; and a section taken near the Indian encampment, at the mouth of the west river, corresponds with others taken several miles farther westward. Reposing directly upon the rocks, there are frequently thick deposits of clay. One of these occurs opposite the town, near the Ferry Wharf, and on the property of Mrs. Desbrisay, and is very favourably situated for an extensive manufacture of bricks. In this district, and at many other places, a black porous sandstone, containing lignite, was observed; from its colour, and the presence of lignite, it has been supposed by some to be an indication of coal, but it seldom accompanies that important mineral.

"Outside of the harbour of Charlotte town, eastward, the cliffs are from 30 to 40 feet high, or thus: diluvium, 14; red sandstone, 10; conglomerate limestone, 4; red and chocolate sandstones, 8 = 36 feet. Conglomerate limestone occurs near the entrance of Charlotte Town harbour both eastward and westward of the Blackhouse. At the before-mentioned cliff it forms a strata between the sandstones. It resembles the common conglomerate of the coal group, being apparently a collection of small pebbles cemented together; but instead of quartzose or flinty pebbles, the nodules of the limestone and the cementing matter contain carbonate of lime. A piece of this rock, of medium purity, yielded of 100 parts—carbonate of lime, 68; silicious residuum, 41 = 112. The limestone at this place is therefore sufficiently pure for the purposes of agriculture, but its situation is unfavourable for quarrying any great quantity. A thin stratum of white and compact limestone appears at Bellevue, on the farm of Mr. Charles Hazard. At Lobster Point strata are again seen in a bold cliff, and dipping N.N.E. at an angle of 4°. From the soil downwards to low-water mark, they are as follows:—diluvium, 6; red sandstone, 5; red shale, 5; red sandstone, 5; red marly clay, 5; sandstone, 6 = 37 feet.

"From Lobster Point to Gallows Point the shore is low, and the mouths of the rivers and creeks are bordered by tracts of marsh, and the shores of the bay are lined with sandy beaches. Tea-hill, an eminence in a ridge of elevated land already noticed, discloses at several places rocks similar to those just named. Between the hill and Orwell Bay, and embracing the fronts of Lots 49 and 50, a large tract occupied by flourishing villages and bordered by marshes, is very low; much of the soil has been improved by the alluvium brought down by small streams that descend from the higher grounds. Marsh alluvium, or marsh mud and peat are abundant, and may be cheaply applied as compost manure.

"Governor's Island, in Hillsborough Bay, is situated

about five miles from the main land of which it once formed a part, the intervening land having been removed by the operations of the sea. At low tides the separating channels are still very narrow and shallow. The island contains upwards of 190 acres of excellent soil, a part of which is still covered by the original forest.

"The rocks of Governor's Island are different in their character from those just noticed, and from a few fossils contained in them, they appear to belong to the coal-field of the opposite coast. They are compact gray sandstones, conglomerate, red and blue shales, marls, and limestones. Pieces of copper ore have been found on the N. side of Governor's Island. Upwards of 20 lbs. of the ore was obtained—the best samples contain 40 per cent. of pure copper. The site of the ore was once occupied by a tree which has been fossilised by copper, and the vegetable texture of the wood can still be traced in the compact cupreous masses.

"Orwell, or Gallows Point, is a small peninsula between Pownal Bay and Orwell Bay. At its western extremity it is composed of rocks belonging to a coal formation—they are coarse and fine micaceous sandstones, conglomerates, red, white, and blue shales, fire clay, and blue compact, and conglomerate limestones. The general direction of the strata is N.N.E. 8°, but both are very variable, and the beds have evidently been much disturbed—at one place, a fault of four feet was observed. These rocks form a low indented cliff upon the shore, being covered by six feet of diluvium. Near the Point, a conglomerate limestone, like that of Governor's Island, appears near high-water mark, and thin strata of that rock occur in the cliff. This limestone also appears on the farms of Mr. Young and Mr. Mutch, where it gradually rises to the surface and becomes a compact blue rock, in a stratum from four to six feet in thickness. It is well situated for being quarried, and the limestone is of a good quality.

"The sandstones and conglomerates of the Point contain the remains of trees and other plants characteristic of the coal measures. The trees are all prostrate in and between the strata; the original bark has been changed into coal, and the woody parts of the trunks are now seen in masses of sandstone, iron ore, or sulphate of barytes; in the latter, the vegetable fibre still remains distinct. They are quite different from any of the trees now growing upon the island. A very thin seam of coal was found in the face of the cliff, in which there is also a small quantity of the sulphate of barytes associated with iron ore.

"The rocks of this imperfect coal-field were traced eastward into the country upwards of four miles, where they seem to terminate, or they are succeeded by the red sandstones or marls. At the extremity of Gallows Point, and opposite a low tract of peaty ground, there is a submerged forest: upwards of three acres are occupied by stumps and roots of the spruce, fir, and hemlock, which are covered by every tide, being from 1 to 8 feet below high-water mark. It is certain that these trees grew upon the spot where they are now seen, as their roots and the soil that nourished them are all present: their trunks have been broken down by the ice, and at low water the tract resembles the clearing of the new settler. From a variety of facts, it is probable that there has been a submergence of the land itself, of which there are proofs in different parts of the island. The rocks of the coal formation at Orwell Bay are succeeded by the red sandstones, which on the south side of the

bay form perpendicular cliffs from 36 to 70 feet high. The strata run east and west, with a general dip south of 15°; they are coarse and fine red sandstones, red shales and marly clay.

"At Point Prim, and thence to Flat River, Belle Creek, and Wood Islands, the coast is low, and often bordered by shingle beaches. Peat swamps are numerous. The soil, having resulted from the disintegration of the rocks, is red; still there are small patches of white sand, the fertility of which might be much improved from the abundant supplies of marsh and mussel mud situated along the sides of the rivers, creeks, and inlets. Southward of the Wood Islands, and at Burnt Woods, the cliffs of sandstone and red marl will average 35 feet in height. The direction of the strata is E., 32° S., dip. N. 30°, E. 10°. Near the residence of Mr. W. le Lacheur small quantities of manganese ore were seen in the soil. Near Bear Cape there is a collection of peat exposed to the sea.

"The shore on the E. side of Colville Bay was evidently inhabited in former days by the native Indians; and, from the character of their relics, they appear to have been Micmacs, the descendants of whom are still upon the island. These relics consist of axes, spears, and arrow points, and rude pots made of stone; barbed fish-bones, which they employed in fishing, are also found. Some of the arrow heads are made of Labrador felspar, agates, hornstone, and jasper. The felspar is identical with that found at Labrador: the agates are like those of the Bay of Fundy; and, as none of these minerals have been found *in situ* on the island, it is very probable that the pieces used by the Indians were brought from those places. From East Point to the entrance of St. Peter's Bay, a distance of nearly 40 miles, the coast is straight, very level, and not indented by a single river-mouth or harbour. The shore is bounded by a series of perpendicular and overhanging cliffs, which are noticed only at those places where the rocks descend into the sea.

"Near St. Peter's Bay the coast is bold, and the cliffs are from 50 to 75 feet high. Against these natural precipices the sea dashes with great fury, and from the yielding nature of the rocks the dilapidation of the coast is very rapid. Softened by meteoric agents, and expanded by the frosts of winter, immense masses fall in the spring, and the shore is covered by *debris*, which is soon broken up and removed by the waves, the sand being thrown inwards upon the land by gales of wind. Most of the strata on this shore are similar to those of the opposite coast—indeed they are the same strata continued across the island. The following section was taken in St. Patrick's parish:—diluvium, descending 13 feet; fine red sandstone, 11; red shales, with their laminae of white limestone, 7; red marly clay, 8; red sandstones, 4; coarse red sandstones, 8; conglomerate, 12 = 63 feet.

"St. Peter's Bay is a narrow but deep indentation, and a safe harbour. Its mouth is protected by a chain of sandhills, having a narrow channel between them that is capable of admitting large ships at certain times of tides. These sandhills resemble the cones of extinct volcanoes: they are liable to constant change, and were they not covered with bent grass, they would be much more liable to drift away before the winds than they are at present. Near the mouth of the bay, a forest of hard wood, consisting of beech, birch, and maple, has been buried by the drifting sands; the ancient channel of the river has been filled

up; and the wharfs built by the French, who were the first civilized inhabitants, have all been buried in the shifting shingle. An opening formed by the sea during a gale, exposed a thick bed of oyster-shells and a number of Indian relics.

"The turnpike between St. Peter's and Charlotte Town passes over and between a number of diluvial gravelly mounds, frequently called by American geologists 'saddle-backs.' They are proofs of the former existence of powerful currents of water that have passed over the island previous to its elevation above the sea. Boulders of granite, sienite, trap, and other rocks are scattered over the surface of the southern division of the island, although they are less numerous here than they are farther north.

"The red sandstones, shales, and marly clay are again exposed at Cove Head, near the entrance of Little Rustico; they also appear at a number of localities at Grand Rustico and Hunter River. Great quantities of oyster and other shells are found upon the banks of the rivers and sides of the bays: they are sometimes six feet in thickness, and are covered by a soil containing much phosphate of lime. The separation of all the bivalve shells, and the rude instruments and even skeletons found in these deposits, show that they were made by the savages.

"At the fine settlement on the banks of Glasgow river the lands become more elevated, and they are broken by deep ravines, or narrow gorges. The rocks in this district, and on parts of the parishes of Grenville and Charlotte are chiefly coarse calcareous sandstones. The soil is a bright red clayey loam, and highly productive. The elevated ridges of wild land are covered with majestic forests of the hard woods. From New London Harbour to Richmond Bay the distance along the coast is about ten miles. The shore is again fringed by perpendicular cliffs from 40 to 60 feet high, called the 'Capes.' The rocks are thick and shelly strata of red and chocolate-coloured sandstones, with their beds of clay, and occasionally streaks of white lim stone; the dip is very variable, and at many places the beds are horizontal.

"Sand-hills extend from Hog Island to Indian Island, and thence to Holland Harbour, or Cascumpee, the whole distance being upwards of 20 miles. They are only interrupted by the channel to Port Hill and Cavendish inlet, and forming a barrier between the upland and the sea, they effectually prevent the washing away of the soil by the tides and waves. Between this barrier of sand and the main shore there is a beautiful lagoon, averaging a quarter of a mile wide, and with sufficient water to allow boats and canoes to pass. While the sea outside is agitated by gales, the water of the lagoon remains tranquil, and offers a safe and easy channel of communication. The shore side of the lagoon is skirted by small marshes, and the sea-wall side by beaches and collections of alluvium, which, at the time of my visit, were occupied by great numbers of plover, herons, ducks, and other kinds of birds. The sandhills are covered by bent grass, which protects them from the influence of the wind. This grass is sometimes mowed, and employed by the inhabitants for fodder. At the entrance of the lagoon, and occasionally throughout its whole length, there are boulders, some of which will weigh ten tons. They are forced towards the shore by an expansion of the ice during the severe cold of winter. The rocks, wherever they were observed, do not differ from those already described, but, in consequence of the shore being very low, only a few of the most superficial

strata can be seen. A few families are settled on the side of the lagoon, but the surface of the country generally is an unbroken wilderness. At one situation the hard wood forest is seen standing upon the very margin of the salt water. The sea has flowed in among the beech, birches, and maples, by which they have been killed, and large pieces of drifted wood were observed among the decaying groves of the upland.

"One of the most remarkable circumstances in regard to the geology of the island was observed at Casumpee harbour. On the south side of the bay there is a peat bog called the 'Black Bank,' reaching three miles along the shore, and containing nearly 2,000 square acres. It reposes directly upon the red sandstone and marly clay, and is from ten to twenty feet in thickness. This bog, with all its decayed sphagnum plants, is of fresh-water origin. Two groves of spruce and fir were observed to be buried in it at different levels, and their trunks and roots may be seen projecting from the bank. The peat is of excellent quality, and will, in the course of time, be valuable.

"This deposit now forms one of the shores of the harbour, and at high water its lower part is seven feet beneath the level of the sea; it is constantly being washed away, and masses of it are seen scattered along the borders of the lagoon. At low water the side next to the bay is partially drained, so that the plants from which the peat has been derived have ceased to grow, and a part of the surface is quite dry.

"It is not improbable that the site of this peat-bog was once a lake which was gradually filled up by the growth and decay of the mosses and other plants; but if the lake had been below the common sea level, the tide would have found its way into it through the channel necessary to give exit to the streams coming in from the adjacent lands. Under such circumstances the mosses, spruce, fir, &c. could never have flourished, as sea-water destroys them; nor is it probable that this bog moved forwards like a glacier into the sea, from having the barrier between it and the gulf washed away. It is now as high as the surrounding land, and does not repose upon an inclined plane, over which it could move. The water of Casumpee harbour is deep, and the shore is so bold opposite Savage Island, and near the residence of Messrs. W. and C. Woodman, that ships may lay afloat alongside of the land; yet, the surface of the earth is securely elevated seven feet above the top of a medium tide. From a variety of facts that might be quoted, it appears quite evident that parts of the island have been, within a comparatively recent period, submerged, while, perhaps, others may have been elevated.

"The evidences of elevation of different parts of the shores of the Gulf of St. Lawrence are evident from the collections of recent shells found in clay and marl beds now situated from 10 to 200 feet upwards above the present level of the ocean. In a very interesting paper, addressed by Captain Bayfield to Mr. Lyell, and published by the Geological Society of London, in 1839, this elevation of the land is stated to extend far up the river St. Lawrence. Besides this uplifting of the land at numerous places in British America, there has been a sinking down of the surface at certain localities; or, as it is understood by geologists, there has been a bending of the crust of the earth, by which some places have been elevated and others depressed—the ele-

vation having, as it is supposed, exceeded the depression.

"Admitting, then, that the tract of country where the above peat-bog is situated was lowered, the sea would immediately have extended its bounds, overflowed a part of the country, and finally have its margin upon the border of this bog. Savage Island, composed of red sandstone and diluvium, is still above the water, and the waves have raised a bar of sand, which the winds have since lifted into a ridge that is now stretched across the mouth of the bay.

"Between Westmoreland and Hillsborough Bay the lands are elevated, being occasionally broken by steep hills and deep ravines. Near the mouths of Tryon, Brokelby's, Rice, and Allan Coves, and between the latter and Fort Anherst, there are perpendicular cliffs from 40 to 60 feet high. These cliffs are also composed of the red sandstones, shales, and conglomerates, with conglomerate limestone. The following section was taken between St. Peter's and Allan's Cove:—diluvium 8 feet; conglomerate 4; red sandstone 10; red shale and marly clay 6; impure limestone 1; red sandstone 2; conglomerate limestone 4 = 35 feet.

"The course of the strata is N.E., with a general dip of 5° N.W. From the facts that have been noticed, and others that might be introduced, it appears very evident that, excepting the coal-field at Gallow's Point and the trap-rocks of Hog Island, Prince Edward Island consists of groups of red sandstone, the strata of which have been already described.

"*Alluviums* are produced by causes that are daily operating upon the surface of the earth. Frost, snow, rain, changes of temperature, &c., all tend to disintegrate the hardest rock, and finely divided mineral matter is constantly carried downwards by the shower, as well as by the flood, from the hills into the valleys, and spread along the borders of the streams by the overflowing of their waters. The sediment thus produced may be called the alluvium of rivers. Again, by the constant operations of the tides and waves of the sea, the shores are worn away, the sands of the sandstones and pebbles of the conglomerates are disunited and spread out in beaches, while the fine particles of clay and marl, from being mixed with the water, are transported to great distances, and finally thrown into the river mouths and estuaries, where they form estuaries of the sea.

"The alluvium of rivers and the alluviums of the sea, are often mixed on the coasts, the one being brought downwards by the fresh, and the latter inwards by the salt water. Such alluvial matter, whenever it is sufficiently drained, is the richest of natural soils, and, by being mixed with the sandy uplands, it will, in all ordinary cases, greatly increase their fertility. Alluvial deposits are very numerous on Prince Edward Island. At the extremity of Egmont Bay there is an alluvial tract of 2,000 acres. At Bedeque, lot 42, parish of St. Patrick, and other places, such tracts are also extensive. As the tides only recede a few feet, it is not probable that these tracts can be reclaimed by dikes, or embankments, yet they may be greatly improved even in their present condition, and they are valuable for the natural grass they produce for hay.

Peat is formed by the growth of sphagnum or mossy plants. Ponds, lakes, and low tracts are frequently filled by the productive powers of vegetation. The mosses first begin to grow around the shores;

each succeeding season yields a new crop; the preceding one having been buried beneath the water, where it is preserved from decomposition, and this process is carried forward until the lake or pond is filled. These plants will also close up the outlets by which the water makes its escape from low tracts. The result is the forming of ponds, and, as forest trees cannot grow in situations where their roots are constantly submerged, they decay, fall, and are finally buried in the peat, which spreads its annual layer even over the surface of the water. No sooner is the accumulation thus produced raised so high that there is not sufficient moisture on the surface to nourish the peat-forming plants, than the whole process is terminated, and the site becomes a barren waste. Peat bogs are numerous on the island, but, in general, they are small. The most extensive of them is at Casumpee harbour. It contains 2,000 acres. These bogs will supply a useful article for compost manure, and afford fuel, should it ever be required.

"*A Marly Clay* is found interstratified with the sandstones; it sometimes contains ten per cent. of lime. Its value for manure may be tested by the application of a few drops of muriatic acid, the quantity of lime present will be indicated by the briskness of the effervescence. It will be useful when applied to light and sandy soils, which the clay will render retentive of moisture.

"*Boj Iron Ore; or, Hydroas Peroxide of Iron.*—This ore appears in the soil, and in bogs at many places. It has evidently been washed from the soil, to which it imparts the colour of the rust of iron.

"Several deposits of the hydrated *oxide of manganese*, or black wad, are noticed; they have been collected by a process similar to that by which bog ore is produced. By the disintegration of rocks containing manganese, the ore is set at liberty and washed by rains into shallow basins on the surface. It is frequently found associated with the hydrous peroxide of iron, and mixed with clay.

"The remains of ancient forests, now submerged beneath the sea, are not uncommon on the coasts of North America. The trees are such as usually grow on low land, and with them peat sometimes occurs. Several sunken forests are mentioned in Professor Hitchcock's *Geology of Massachusetts*. During the geological survey of New Brunswick, I discovered a submerged forest on the south side of the island of Grand Manan. At different localities in Nova Scotia there appears to have been a subsidence of the land. At Prince Edward Island this remarkable fact may be seen at Gallows Point, but more especially at Casumpee, where, with a forest, a large peat bog is now beneath the level of the sea. Many theories have been proposed to account for such phenomena; yet it is probable that they can only be explained but by referring them to movements which are known to take place in the crust of the earth, whereby certain tracts are elevated and others are depressed.

"*Dunes or Sandhills.*—During storms the sand of the shore is often thrown up by the spray, and not withdrawn by the reflux of the wave, and having been dried by the heat of the sun, it is driven upwards upon the land by winds, and forms considerable elevations. Such hills are called dunes, for which the borders of the Nile are celebrated. Chains of such hills are stretched across the mouths of nearly all the bays of the eastern coast of the island, where they form harbours with narrow channels, and contribute much to the beauty of the scenery. The sand is also blown upon the uplands, where it sometimes,

by its constant accumulation, proves to be a serious injury to agriculture. The principal dunes are covered with bent grass, which, when it is firmly rooted, prevents a further progress of the sand. Trees and beach grass are sometimes planted in other parts of the world to arrest the moving drift.

"On the inner side of these dunes, a good alluvial soil is sometimes collected, upon which wild plants grow luxuriantly, and some tracts would produce wheat and clover. From the great abundance of oysters and other mollusca on the shore, these sands occasionally contain comminuted shells, and will effervesce in the strong acids. Such sand, from containing the phosphate of lime would be beneficially applied to heavy clay soils.

"*Boulders.*—Along the whole line of the northern part of the American continent, where it skirts the Atlantic, loose blocks of granite, sienite, trap, greenstone, porphyry, and other rocks are found scattered over the surface, and on formations from which they are altogether different. They vary in weight from a few pounds to fifty and even a hundred tons. They occur in the plains and valleys, and upon the table lands and hills. In some instances the angles of these masses have been worn off, as if they had been submitted to friction upon sea coasts; again they appear with sharp edges, as if they had been recently removed from the quarry.

"These masses of rock are called boulders, and may be properly classed with a variety of diluvium found with them on the surface of the earth. The surfaces of the solid rocks at numerous situations where these boulders are seen, are found to be furrowed and scratched in certain directions, as if hard and heavy bodies had passed over them with great force and friction. These are called diluvial grooves, which were evidently produced by the passages of the boulders during their transport.

"The boulders of this part of America are situated southward of the mountain masses from which they have been removed, and they have been traced, by geologists, to their birth-places. I have found erratic blocks of stone belonging to the central granitic ridges of New Brunswick, fifty miles and upwards southward of their original sites; and boulders from the mountains of Gaspe are scattered over the low lands of the northern part of New Brunswick, having been transported across the Bay Chaleur to the distance of eighty miles. The size of the boulders usually diminish in proportion to their distances from the parent mass.

"The forces by which these blocks have been removed have been directed from the north towards the south. The diluvial grooves run from north-west to south-east, and north-east to south-west, and there are still greater variations in their courses, or such as would arise from the passage of a sea over submarine mountains. Without entering upon any full description of diluvial drift and the causes that have produced it, I may remark, that boulders of granite, sienite, trap, &c., appear occasionally in every part of the province; they are, however, far more numerous on the northern part of the island than to the south, a circumstance that accords with a fact already noticed. The boulders are not only found upon the surface, but also lodged in collections of diluvial *detritus*. The largest of these erratic blocks will weigh five tons and upwards, and as there are no rocks *in situ* of the kind on the island, some of them must have been transported to a distance of 200 miles and across the Gulf of St. Lawrence, where

it is 100 miles wide. Besides the boulders of igneous rocks among the drift at Crapaud, there are pieces of large fossil trees, like those of the strata, belonging to the coal-field of New Brunswick. These may have been imported from any part of the district between Bay Verte and Point Miscou, and over distances from 20 to 100 miles; certain it is they do not belong to the island, and therefore they are properly referred to the nearest rocks which contain fossil plants of a similar kind. Several theories have been proposed to explain the phenomena of boulders. Formerly, by many they were ascribed to the effects of the deluge recorded in the Mosaic history; but it is now known that causes are still in operation whereby they might have been transported. More recently an opinion has prevailed that they were moved by currents of water at that period when the districts where they are found were submerged beneath the sea. Still it is not probable that aqueous currents could ever have carried the boulders across the deepest sea channels to opposite shores, and up steep acclivities, even to the summits of mountains. By such causes masses of rock, gravel, sand, &c. are daily urged forward by the currents of rivers, but they do not afford satisfactory evidence that the boulders and diluvial drift, found under the above-mentioned circumstances, have been removed from their native situations to their present sites by the unaided operations of water.

"If we look to causes that are still active upon the earth, it will be observed that ice performs a most important part in the transportation of mineral matter. The immense icebergs and sheets that are annually formed in almost all the bays, rivers, and estuaries of the North American coast, embrace fragments of rocks, gravel, sand, drift-wood, and every thing that was in contact with them at the time of their congelation. In the spring, when by the heat of the sun the ice begins to dissolve, it is loosened from the shores, lifted by the spring tides, and carried by currents out to sea, or to other shores, with many of the materials it laid hold of during the months of intense cold. I have observed, also, that where the ice, loaded with boulders, is forced over the surfaces of rocks, they leave parallel grooves in the direction of the currents, like those that occur on the faces of the strata now elevated far above the sea.

"This natural mode of transportation is carried on in a greater or lesser degree from the high latitudes where icebergs are formed, to the south, where water only freezes to the depth of a few inches; as the warmth of the spring or summer increases, and the ice dissolves, the transported rocks, sand, and gravel are liberated, and they fall to the bottom of the sea, are lodged upon its borders, or on the shores of the bays, inlets, and rivers. Minerals peculiar to the coast of Labrador are therefore found on the shores of Newfoundland, Cape Breton, Prince Edward Island, and on the Atlantic side of Nova Scotia. The rocks on the Gulf of St. Lawrence are carried to opposite shores, and thousands of boulders drop annually from the ice to the bottoms of the bays, and are scattered along the coasts. I found blocks of red sandstone of the head of the Bay of Fundy, at the western extremity of Grand Manan, the distance between the two sites being upwards of 170 miles. The trap-rocks on the south side of the Bay of Fundy are exchanged for the slates and gneiss of New Brunswick, the distance between them being from 40 to 70 miles. The sandstones of Cumberland are sometimes brought into the basin of Mines; and manufactured grindstones were identified, a few years

ago, that had been brought from the former to the latter place, a distance of 140 miles, in masses of ice.

"It will be admitted by every practical geologist, that the chief part of the stratified rocks of North America have been formed beneath the sea, a fact established by the numerous remains of marine animals contained in them. Long since these rocks were consolidated they have been submerged, as may be proved by the recent shells now found in beds of marl and clay several hundred feet above the level of the sea. That Prince Edward Island has been raised from beneath the waters of the gulf, few will doubt who carefully examine its valleys and beds of diluvium. Guided by much corroborative testimony, a part of which has been referred to as briefly as possible, I cannot refrain from expressing my opinion, that the boulders of Prince Edward Island have been brought hither by ice during that period when its surface was beneath the waters of the Gulf of St. Lawrence.

"*Diluvium*.—At many situations on the island, there are beds of small rounded stones, gravel, and sand, varying from 3 to 50 feet in thickness. These collections of *debris* often form chains of oval hills, and skirt the flanks of the valleys in such a manner as to impress the mind with the belief that they were thrown up by the agency of water. Indeed, the stratification of the gravel and sand which appears occasionally, renders it quite evident that currents of water have been active agents in their accumulation; yet, many of these superficial deposits bear no marks of stratification. By an examination of the materials of these deposits, it will be observed that the rocks and minerals of which the fragments are composed do not belong to their present sites, being different in their characters from any of the strata of which the island is composed. Their origin and situation may therefore be properly ascribed to the same causes that transported the erratic boulders. The melting of large masses of stranded ice loaded with gravel and sand, leaves mounds and elevations upon the present shores, and the hills of unstratified diluvial *debris* may therefore be accounted for by referring them to the melting of stranded ice during the boulder period. The appearance of such deposits would be much modified by the operations of currents of water, which have evidently opened many valleys, and spread the gravel out in strata.

"Another kind of diluvium is composed of pieces of red sandstone, red sandstone and clay, which in general repose upon the solid strata beneath. This *debris* has been derived from the red sandstones and shales of the island, and affords a more fertile soil than the imported variety. It is frequently mixed with the foreign drift, beneath which its principal beds are situated."

"*Climate*.—All who have ever visited the island can bear testimony to the salubrity of its climate, which is neither so cold in winter nor so hot in summer as that of Lower Canada, while it is free from the fogs which spread along the shores of Cape Breton and Nova Scotia. One hundred years of age, without ever knowing a day's sickness, is frequent in the island; the air is dry and bracing; the diseases of the North American continent are unknown, and puny British emigrants attain, soon after their arrival,

robust health and unwonted strength. No person ever saw an intermittent fever produced on the island—pulmonary consumption, so frequent in north and central America, is seldom met with—the greater proportion of the colonists live to old age, 90 to 100, and then die by a gradual decay of nature; deaths between twenty and fifty are very rare—accidents even included. It has been estimated that not one person in fifty inhabitants dies throughout the year; industry always secures a comfortable subsistence, and encourages early marriages; the women are often *grandmothers* at forty, and the mother and her daughters may each be seen with a child at the breast at the same time. Such is the happy condition of this simple and hospitable people, whose prospects are so far superior to that of their less fortunate brethren in England.

Mr. S. S. Hill, in his interesting "Short Account of Prince Edward Island," thus describes the climate:—

"The climate of Prince Edward Island is highly favourable to the pursuits of agriculture. It differs from that of England in the winter more than at any other season. The unwholesome and damp chills of an English winter are unknown in the island; and the diseases which a moist atmosphere originates, are uncommon at any time. The cold is more severe, and endures for a longer period; so that for about four months, all agricultural pursuits, properly so called, are of necessity suspended. But this is not of so much moment as to materially affect those interests which are connected with the soil; for the winter is both shorter and less severe in the island, than in those countries on the Baltic which export agricultural produce, and whose inhabitants are for the most part engaged in the rural occupations. The days too are considerably longer at that season in the island, than in those countries, which is material, both as to health and to labour.

"In the beginning of June, the summer bursts forth; and the natural forest, presenting to the eye every variety of vegetation, and filling the air with the fragrant perfumes of the native herbs of the island, gives abundant evidence of the fertility of the soil; and at the same time affords an opportunity for the lovers of nature to gratify their enthusiasm, or indulge their taste for contemplative enjoyment. The brilliancy of a summer night in the vicinity of the bays, cannot be surpassed by that which the finest climates under heaven exhibit. The wind is usually still, and the smooth surface of the water reflects the splendid lights of the firmament; and wherever the current runs, the fishes are heard sporting in the stream; and on the shore, whole acres are sometimes illuminated by the fire-flies, which emit flashes of light as they sport in the air; and now and then a torch is seen displayed at the bow of the canoe of some Indian engaged in spearing the eels.

"From this time, until the middle or the end of September, the climate resembles that of the southern coast of England. The thermometer, occasionally, during calm weather, shows a greater degree of heat than we experience in this country; but the sea

breeze seldom fails to lower the temperature, by the time the sun reaches the zenith, so that no inconvenience thence arises. But during the prevalence of the south-west winds, throughout the greater part of July, August, and September, the thermometer stands pretty steadily at from 75° to 80° of Fahrenheit during the mid-hours of the day; and, at night, the air is soft, wholesome, and agreeable.

"The hay harvest commences about the middle of July; and the white crops are usually cut between the middle and the last of August. About the middle of September the evenings begin to get cool, and the autumn properly commences. Nothing can exceed the beauty or the healthiness of this season of the year. The atmosphere is exceedingly rarified, and the deep azure of the clear sky reflects a darker shade upon the waters; while the forests, as they change from the rich green of summer to the thousand autumnal tints which the variety of their kinds exhibit, present scenery unsurpassed in beauty, or in the hopes of future plenty which they inspire, by any thing to be met with in the old or new world.

"The Aurora Borealis, though common at all times of the year, is, during the early part of autumn, more splendid than at any other season. It sometimes appears like the reflection of the lights of this great metropolis upon the sky, when seen from a distance upon a clear night; but it often covers the whole compass of heaven, and in red, blue, green, and yellow streams, illumines the wide expanse; and changing its colours as it continually flashes across the firmament, presents a spectacle unrivalled by any other phenomenon which nature anywhere displays."

Population.—We have no correct estimate of the progressive increase of the population; when taken from the French the island is supposed to have contained 6,000 Acadians; a great number of whom were afterwards removed. In 1802 the number of inhabitants was—males, 10,614; females, 10,007; total, 20,651: in 1822, males, 12,110; females, 12,460; total, 24,600; in 1825, males, 14,110; females, 14,460; total 28,600; in 1827, males, 11,976; females, 11,290; total, 23,266; in 1833, males, 16,840; females, 15,452; total, 32,292. In 1841, total population, 47,034; in 1849-50, about 55,000. Scotchmen form more than one-half of the whole population. The Acadian French are estimated at 5,000; but of the Mic-mac, or native Indians, there are probably not more than thirty families on the island. In 1841, the natives of England amounted to 2,650; of Scotland, 5,681; of Ireland, 5,193; of the British colonies, 1,755; of other countries, 194; and of Prince Edward Island, 31,561. Persons in connection with the church of England, 5,707; with the church of Scotland, 10,006; with presbyterians of Prince Edward Island, 5,089; with church of Rome, 20,430; methodists, 3,421; baptists, 1,600; other denominations, 772. The following complete census in 1841 shows in detail the state of the island:—

LAND IN CULTIVATION, AGRICULTURAL PRODUCE, CATTLE, &c. 287

Statistical Return of Prince Edward Island, taken in the Year 1841, under the authority of the Act of 4th Victoria, Cap. 5.

NUMBER OF TOWNSHIP.	Acren held in fee simple.	Acren held under lease.	Acren held by written demises.	Acren held by verbal agreements.	Acren held by occupants, being neither freeholders nor Tenants.	Persons who paid their own passages.	Acren of Arable Land.	Produce, in bushels, raised during the year 1840.										Horses.	Neat Cattle.	Sheep.	Hogs.	Places of Worship.	Schoolhouses.	Breweries and Distilleries.	Crisp, Carding, and Saw Mills.
								Wheat.	Barley.	Oats.	Potatoes.	Flax.	Hay.	Grass.	Turneps.	Peas.	Beans.									Apples.
One	130	8110	680	542	163	2606	2733	563	5803	23,290	174	711	1250	613	1	2	2	2	2	2	2	2	2	2	
Two	339	1012	1035	400	19	820	839	316	1640	3883	61	213	438	169	1	1	1	1	1	1	1	1	1	1	
Three	5610	699	..	1070	37	661	599	133	799	1357	26	134	213	113	..	..	..	..	..	..	..	..	..	..
Four	130	2604	300	600	130	106	719	1066	129	1357	19,290	42	248	311	189	2	2	2	2	2	2	2	2	2	
Five	2253	150	510	200	68	981	834	209	3022	10,724	69	242	397	191	1	1	1	1	1	1	1	1	1	1	
Six	791	..	100	1240	11	707	471	118	1552	7075	31	164	195	108	1	1	1	1	1	1	1	1	1	1	
Seven	3150	..	1650	20	50	746	1475	151	1117	11,340	19	253	410	195	2	2	2	2	2	2	2	2	2	2	
Eight	650	..	100	180	17	469	856	365	719	6904	14	204	257	125	1	1	1	1	1	1	1	1	1	1	
Nine	130	500	500	1560	..	251	265	93	224	4507	9	13	134	81	1	1	1	1	1	1	1	1	1	1	
Ten	330	160	100	..	390	8	110	96	8	100	1230	4	24	38	13	..	..	..	..	..	..	..	..	..
Eleven	100	3120	..	1300	100	87	942	1062	140	1739	9731	50	273	393	197	1	1	1	1	1	1	1	1	1	
Twelve	822	300	300	..	340	23	368	478	39	631	5410	13	126	236	149	..	..	..	..	..	..	..	..	..
Thirteen	5346	3020	284	245	160	96	2883	2527	498	5490	16,650	111	536	924	308	1	1	1	1	1	1	1	1	1	
Fourteen	5051	1553	230	200	210	64	1290	1920	507	6548	21,333	114	646	1168	562	2	2	2	2	2	2	2	2	2	
Fifteen	8606	..	100	..	130	36	2249	1683	742	5326	27,670	126	547	937	429	2	2	2	2	2	2	2	2	2	
Sixteen	1380	4749	2330	8	505	107	2613	1808	568	7531	19,359	116	675	108	428	1	1	1	1	1	1	1	1	1	
Seventeen	18159	2237	727	311	393	263	4933	4281	1157	17,472	45,624	212	1129	1738	784	2	3	4	4	4	4	4	4	4	
Eighteen	8063	5806	..	..	101	44	4237	3470	566	18,503	39,690	268	1273	2737	929	1	1	1	1	1	1	1	1	1
Nineteen	2394	10,006	..	..	1310	104	3217	3802	926	17,229	43,360	173	1044	1562	774	1	1	1	1	1	1	1	1	1
Twenty	2580	7923	..	294	800	80	2725	3839	818	15,695	36,557	211	920	1691	736	2	2	2	2	2	2	2	2	2	
Twenty-one	3275	3658	850	240	400	151	2224	3935	1099	14,668	35,110	174	707	1737	502	2	2	2	2	2	2	2	2	2	
Twenty-two	911	429	..	2800	1121	181	443	684	435	684	16,329	86	368	827	253	1	1	1	1	1	1	1	1	1	
Twenty-three	1700	7935	150	200	1470	337	2972	2871	946	14,129	41,118	184	861	1611	692	4	4	4	4	4	4	4	4	4	
Twenty-four	3112	9912	300	1850	704	197	4327	7213	3443	73,920	324	1204	2658	1262	1	2	1	1	1	1	1	1	1	1	
Twenty-five	12,657	347	..	560	..	66	2730	3017	581	10,360	21,325	139	667	1183	444	2	2	2	2	2	2	2	2	2	
Twenty-six	869	4314	..	1100	915	129	3904	4815	1264	13,881	32,575	179	321	1686	691	3	3	3	3	3	3	3	3	3	
Twenty-seven	4703	4242	150	2007	440	230	2209	2625	1238	11,473	33,180	154	632	1143	581	1	1	1	1	1	1	1	1	1	
Twenty-eight	7910	10,884	329	143	..	130	5657	6296	449	20,694	81,325	338	1312	3114	895	5	5	5	5	5	5	5	5	5	
Twenty-nine	2612	10,467	1371	1475	..	430	3807	5008	3431	11,392	50,280	902	764	1309	616	2	3	3	3	3	3	3	3	3	
Thirty	2433	2728	..	800	1060	93	1061	525	280	2263	11,255	42	174	293	113	1	1	1	1	1	1	1	1	1	
Thirty-one	3400	2202	405	372	..	171	1907	1367	1062	7022	24,697	112	75	644	448	1	1	1	1	1	1	1	1	1	
Thirty-two	8879	5689	410	613	..	131	3694	4255	2212	29099	40,071	275	1663	1695	698	3	3	3	3	3	3	3	3	3	
Thirty-three	6730	7144	200	360	435	..	4038	6109	1819	16,760	57,160	283	1085	2904	1280	2	2	2	2	2	2	2	2	2	
Thirty-four	3739	13,427	1624	498	50	457	6837	8209	4182	29,777	60,354	490	1682	2076	7342	6	6	6	6	6	6	6	6	6	
Thirty-five	330	10,033	214	200	104	249	2753	2307	1800	13,737	42,325	238	888	1409	828	1	1	1	1	1	1	1	1	1	
Thirty-six	8917	3702	1230	240	427	1895	1325	1531	11,703	40,266	122	710	81	809	2	2	2	2	2	2	2	2	2	2	
Thirty-seven	7548	2700	125	1580	400	87	2477	1640	1571	8438	36,113	185	746	1095	835	1	1	1	1	1	1	1	1	1	
Thirty-eight	5212	1888	890	267	42	62	1120	1344	1280	5357	29,720	121	478	859	537	1	1	1	1	1	1	1	1	1	
Thirty-nine	2835	440	..	662	70	77	1065	1219	755	5107	17,560	124	396	629	445	1	1	1	1	1	1	1	1	1	
Forty	410	2284	..	188	1045	177	1347	1902	780	7654	31,116	139	479	791	683	1	1	1	1	1	1	1	1	1	
Forty-one	365	1346	..	2462	42	124	1096	1313	1361	6384	30,512	120	544	1038	536	1	1	1	1	1	1	1	1	1	
Forty-two	275	1740	..	550	1439	50	1352	811	1938	6082	27,516	133	432	892	450	1	1	1	1	1	1	1	1	1	
Forty-three	1550	4154	817	344	258	32	1882	1460	2031	8383	48,841	151	692	1164	827	1	1	1	1	1	1	1	1	1	
Forty-four	5143	472	..	200	722	50	1445	1139	2553	7050	49,093	140	542	806	391	2	2	2	2	2	2	2	2	2	
Forty-five	2563	400	..	..	7571	145	1723	941	2612	4808	43,507	188	659	1273	888	1	1	1	1	1	1	1	1	1
Forty-six	1728	1042	360	..	1359	50	878	642	1794	6117	26,415	85	371	692	371	1	1	1	1	1	1	1	1	1	
Forty-seven	9459	..	..	3714	102	2793	2065	5100	17,437	57,603	248	1013	2932	1102	2	3	3	3	3	3	3	3	3	3
Forty-eight	2818	8459	..	65	131	124	2207	3801	1989	19,379	69,746	184	751	1381	852	2	2	2	2	2	2	2	2	2	
Forty-nine	6405	8423	140	187	4991	47	4230	4147	2340	20,845	84,276	271	1164	1166	865	4	4	4	4	4	4	4	4	4	
Fifty	7495	6684	100	310	235	137	3561	3774	1767	18,318	68,376	236	1243	1960	814	1	1	1	1	1	1	1	1	1	
Fifty-one	2985	300	..	2640	950	61	850	912	233	2271	20,624	38	323	410	293	1	1	1	1	1	1	1	1	1	
Fifty-two	1850	420	..	575	2507	49	891	730	422	2834	19,385	74	325	482	315	1	1	1	1	1	1	1	1	1	
Fifty-three	1334	2650	..	1752	269	39	1114	1384	851	5922	25,540	98	428	806	391	1	1	1	1	1	1	1	1	1	
Fifty-four	1695	250	..	100	2851	19	513	449	256	2386	10,460	42	246	298	214	1	1	1	1	1	1	1	1	1	
Fifty-five	9546	50	..	50	123	1203	1374	1829	771	87,520	138	782	1055	524	1	1	1	1	1	1	1	1	1	1	
Fifty-six	700	5691	..	250	200	63	1407	1280	1069	6108	37,220	122	536	929	594	1	1	1	1	1	1	1	1	1	
Fifty-seven	8672	10,872	90	111	90	79	4160	2457	1801	23,173	63,760	250	1473	2333	852	2	2	2	2	2	2	2	2	2	
Fifty-eight	5494	1550	50	150	650	225	2083	1090	764	10,955	27,670	131	511	965	355	1	1	1	1	1	1	1	1	1	
Fifty-nine	1594	1488	160	129	364	95	996	1143	580	4437	15,590	94	333	497	325	1	1	1	1	1	1	1	1	1	
Sixty	3795																								

GOVERNMENT.—Prince Edward's Island has its own lieutenant-governor, council, and House of Assembly, constituted after the manner described in the preceding colonies; it is perfectly independent of the governor-general at Quebec in the civil administration of its affairs; its military are under the control of the Nova Scotia Commander of the Forces. The executive consists generally of nine, and the legislature of six members, appointed by the mandamus of the sovereign; and the Assembly comprises twenty-four members, elected by the people as in the other North American colonies. The form of procedure is that of the British Parliament. There is a Court of Chancery regulated after that at Westminster, over which the governor presides—and the jurisprudence of the colony is under the direction of a chief justice. The laws are English.

Military Defences.—The militia includes 2 lieutenant-colonels, 13 majors, 120 captains, 137 lieutenants, 118 ensigns, and 12 adjutants. The total force, officers and men, is 7302. There are four troops of cavalry, a detachment of artillery, and three regiments of infantry. The military defences comprise the St. George's battery of 11 guns in Charlotte town; Kent battery of 4 guns on the government house ground; York battery at the west entrance of the harbour, and a block house with 4 guns.

Religion.—Prince Edward Island is in the diocese of Halifax. There are six clergymen of the established church, of whom five are paid by the London "Society for Propagating the Gospel in Foreign Parts." The rector at Charlotte town receives from the Treasury £100 per annum, £100 a-year from the London Society for Propagating the Gospel, £360 a-year as garrison chaplain, £70 a-year for a house from his parishioners, and surplice fees. Churches are building in different parishes. There are no parsonage houses, and the glebes have been sold and devoted to education. The number of people professing different forms of religion, and the number of churches or temples of worship in each township are shown in the statistical table at page 287.

Education is promoted by a central academy at Charlotte town, which has 90 male pupils, a national school, with 30 male and 10 female pupils; and 110 district schools in different districts, which cost the colonial government about £1,000 a-year. Three school visitors superintend the district schools, one for each county, and report

annually to the legislature. There are two newspapers, efficiently conducted. Three infant schools were established in 1842 at Charlotte town, George town, and St. Eleanors, chiefly through the exertions and pecuniary aid given by Captain Orlebar, of the Royal Navy, who was employed upon the survey of the island. The master and mistress, Mr. and Mrs. Hubbard, were trained at the Gray's Inn Road Institute, London, and a committee of ladies, communicants of the Church of England, are entrusted with the supervision. Instruction is given to 100 children of ages varying from three to ten years, and in four years the number of pupils amounted to 530. The schools were devised for the benefit of the poor, and the scale of charges was two-pence a-week for children above six years of age, and three half-pence for younger children. The Bible is read daily, hymns sung, and cleanliness, truth-telling, and honesty enforced. A library is attached to each school. The system has answered well, and is worthy of imitation.

Crime—in 1847. In prison, felons 3 tried, 2 untried. Debtors, whites, males 60; females, 3; blacks, 2. Total number in confinement at Michaelmas, of all classes, 131.

Finance.—The first revenue attempted to be levied for the support of the government, as before stated, was the quit-rents—these failing in their extent, a parliamentary grant was applied for and obtained. In 1821 the revenue collected was £2,052; in 1826, £1,935; in 1836, £8,887; in 1846, £17,279.

Items of Revenue.	1846.	1847.
Impost on wines and spirits by permanent colonial enact- ment	£1,189	£1,839
Ditto by annual colonial enact- ment on wines and spirits, and an <i>ad valorem</i> on certain goods and wares	9,816	14,958
Land assessment	1,600	1,824
Spirit licenses	2 2	309
Tonnage duty	316	303
Post office	624	933
Rent of Warren farm	25	25
Wharfage, Charlotte town	175	178
Interest on bonded duties	273	121
Colonial secretary's fees	119	142
Her Majesty's customs	1,734	1,416
Incidental receipts	196	303
Crown land sales	512	201
Surplus money of sales	—	—
Under land assessment act	480	—
Immigrant tax	—	79
Total	17,261	22,631

From 1836 to 1848, the annual parliamentary grant was £3,070. The sum voted for the year 1849 was £2,000,—namely, £1,500 for the salary of the governor, and £500 pension to C. D. Smith, Esq., which was granted in 1824. The island will probably soon defray entirely its civil expenditure.

The Expenditure of Prince Edward Island was, in 1828, £6,749; in 1836, £16,477; in 1847, £21,574; and in 1848, £ . . . The civil establishment costs about £5,200; roads, bridges, and wharfs, £2,600 to £3,200; public buildings, £2,000; House of Assembly, £1,500; legislative council, £500; schools, £1,000; interest on outstanding warrants, £1,500; seed, grain, &c. to destitute settlers, £2,500; sheriff and gaol expenses, £300; printing and stationery, £330; lunatic and indigent persons, £280; coroner's inquest, £60; and various other items.

Paper Currency.—£11,650, issued by the government; and about £10,000 issued by banks in the neighbouring provinces.

Coin in circulation.—About £20,000.

Weights and Measures.—According to the standard of England.

Commerce.—In 1827, the total value of the imports was about £27,000, and the exports about £18,000. The imports in 1847 were valued at £143,617, and the exports at £71,228. The shipping built and exported are not included in this sum of £71,228. In 1846, eighty-two vessels were built in Prince Edward Island, whose tonnage was 12,012; and the value, at £5 to £6 per ton, would be about £66,000. In 1847, there were built 96 vessels; tonnage, 18,115. The vessels registered in the island in 1844 were, under 50 tons—number, 147; tons, 4,056: 50 tons and upwards—number, 90; tons, 9,805. The imports consist chiefly of manufactured goods, and the exports, of grain, potatoes, timber, fish, and ships.

The trade of Prince Edward Island with different countries is thus shown for 1847:—

Ports.	Imports from					Exports to				
	Great Britain.	British West Indies.	British North America.	Foreign Countries.	Total.	Great Britain.	British West Indies.	British North America.	Foreign Countries.	Total.
Charlotte town . .	£48,803	£267	£50,943	£6,375	£106,390	£17,263	£249	£15,465	£196	£33,475
Three Rivers . . .	1,546	—	15,069	690	17,305	9,913	—	4,217	325	14,446
Bedeque	30	—	2,388	—	2,418	782	—	4,922	—	5,705
Casumpee	0	—	339	—	339	409	—	1,737	—	2,147
Malpeque	6,833	—	2,154	—	8,987	3,261	—	6,305	—	9,567
Colville Bay . . .	0	—	6,205	—	8,215	468	—	5,417	—	5,886
Total	£57,213	£267	£79,101	£7,065	£143,634	£32,196	£249	£38,063	£821	£71,226

Among the *imports* from Great Britain, at the port of Charlotte town, are—£16,891 of dry goods; £4,589 of hardware; £5,638 of cordage; £4,126 of iron; £12,528 of sundries. Among the *exports* to Great Britain, are—oats, 96,177 bushels; value, £5,322; timber, 4,769 tons, £3,991; deals, 1,197,902 feet, £2,836. The imports and exports of the other ports, as to trade with Great Britain, are in the same proportion.

Manufactures.—There has been recently established at Charlotte town an iron-foundry; and there is an establishment for drying, fulling, and dressing cloth at the same place. Linens and flannels are made for domestic use; and the colonists tan and dress leather.

Prices.—Wheat, 8s.; barley, 2s. 9d.; oats, 1s. 9d.; potatoes, 2s. 6d., per bushel; hay, per ton, £3 to £3 10s.; wheaten bread, per lb., 4d.; horned cattle, £5; horses, £15; sheep, 12s.; swine, £1; butter, per lb., 1s.;

milk, per quart, 4d.; cheese, 7d.; beef, 4d.; mutton, 3d.; pork, 3½d.; coffee, 1s.; tea, 4s.; sugar, 6d.; salt, 1d., per lb.; wine, 10s.; brandy, 12s.; beer, 1s., per gallon; tobacco, per lb., 1s.

Hages.—Domestic, £16 per annum.

Prince Edward Island is essentially an agricultural colony, and admirably adapted for industrious emigrants with small capital. Crop after crop of wheat is raised without manuring; the barley is excellent, and oats much superior to any other of American growth; the potatoes and turnips cannot be exceeded anywhere; and peas and beans are equally good. Cabbage, carrots, and parsnips are produced as good as any in England; in fact, all the produce of English gardens will thrive here equally well.

The climate is particularly favourable to sheep; they are not subject to the rot, or any disease common to sheep in this country: they are small, but of excellent flavour; the

common size is about 60 pounds the carcase.

The rivers abound with trout, eels, mackerel, flounders, oysters, and lobsters, and some salmon; and the coast with cod-fish and herrings in great abundance. The latter, soon after the ice breaks away in the spring, rush into the harbours on the north side of the island in immense shoals, are taken by the inhabitants, in small nets, with very little trouble; and, as salt is cheap (not being subject to duty), most families barrel up a quantity for occasional use. The lobsters are in great abundance, and very large and fine. In Europe, this kind of shell-fish is only taken on the sea-coast amongst rocks; at Prince Edward Island they are taken in the rivers and on shallows, where they feed on a kind of sea-weed, called by the islanders *cel-grass*; and a person wading into the water half-leg deep might fill a bushel basket in half an hour. Many schooners are annually laden with oysters for Quebec and Newfoundland. The plenty of fish, and the ease with which it is procured, is of great assistance to the inhabitants, and in particular to new settlers, before they have time to raise food from the produce of the land. Hares and partridges are plenty, and are free for any person to kill; and in the spring and autumn great numbers of wild geese, ducks, and other water fowl visit the island.

The fisheries of Prince Edward Island have not been sufficiently attended to. The herring fishery is of great importance: it commences early in the spring, when the bays and harbours, particularly on the north side of the island, are no sooner clear of ice, than they are filled with immense shoals of those fish, which may be taken in any quantity: they are larger, though not so fat, generally, as those taken off the western coasts of Ireland and Scotland, and partake more of the character of the Swedish herring. Alewives, or gaspereau, although not so plentiful as the herring, appear in large quantities. Mackerel are in great abundance on the coast and in the harbours, from June to November. Cod are taken extensively in every part of the Gulf of St. Lawrence, more particularly on the coast of Prince Edward Island, the bay of Chaleur, and in the straits of Belleisle. Trout are found everywhere extremely fine, and often very large: the halibut caught some-

times weigh 300 pounds. Sturgeons are common in the summer months in all the harbours, some measuring six to seven feet in length. Perch are found in the rivers and ponds that have a communication with the sea. Indeed, if the fisheries of this fine island were more attended to, they would add much to the value of property, while their pursuit would stimulate the progress of agriculture and the colonization of the settlement. In 1847, the quantity of dry fish exported was 7,440 quintals; and of pickled, 967 barrels.

The island could support with ease ten times its present population, as almost the whole area is capable of cultivation, and the augmentation of its commerce and revenue shews the prosperous state of the colony. Dr. Gesner says, "In few places have there been greater changes of fortune. Individuals of wealth and respectability, by misguided speculations, have been reduced to poverty; and persons without education, capital, or experience, have rapidly risen to affluence. A person who, a few years ago, came from England in the capacity of a cook, was employed in a ship-yard, and recently his former master was among the number of his servants. He now owns extensive tracts of land, farms, mills of different kinds, and a great variety of other property. During the past year he has built no less than ten ships, and loaded them with timber for Great Britain. He is a man of influence, and has several times been elected a member of the House of Assembly. There are not thirty words in his whole vocabulary, yet all his sayings and doings are characterised by sound sense and correct judgment."

The former custom of granting leases of land for 999 years, at an annual rent varying from one to two shillings per acre, still prevails; for the first, second, and third years no rent is required—then three-pence per acre, and this sum is annually increased until the maximum of two shillings is attained. Proprietors are reducing the term to 99 years, which is reasonable. When land may be thus obtained in the British Empire on such low terms, capable of yielding all the necessaries of life, it is to be hoped that the parishes of England will avail themselves of such means to provide permanently for the relief of the rate-payers and for the employment of their able-bodied poor.

BOOK V.—NEWFOUNDLAND AND LABRADOR.

CHAPTER I.

GEOGRAPHICAL POSITION, AREA, AND HISTORY.

The island of Newfoundland is situated on the N.E. side of the main entrance to the Gulf of St. Lawrence, between $46^{\circ} 10'$ and $51^{\circ} 39'$ N. lat., and between $52^{\circ} 44'$ and $59^{\circ} 31'$ W. long. It is divided from the coast of Labrador on the N. and N.E. by the straits of Belle Isle (which do not exceed 12 miles in width, and offer a difficult and circuitous passage into the Gulf:) its southwestern extremity approaches within 50 miles of Cape Breton, and on the N.W. the Gulf of St. Lawrence separates it from Canada. Newfoundland is the nearest to Europe of any part of America; the distance from St. John's, in Newfoundland, to Port Valentia, on the west coast of Ireland, being 1,656 miles. Bouhette states its extreme length, measured on a curve, from Cape Race to Grignet Bay, at 419 miles; its extreme width, from Cape Ray to Cape Bonavista, at about 300 miles, and its circuit at little short of 1,000 miles. Its area comprises about 36,000 square miles.

HISTORY.—According to tradition (supported, it would appear, by historical evidence of considerable weight) the island was discovered by Biarne, or Biorn, a *sea king*, or pirate of Ireland, who, being driven thither by contrary winds, is said to have taken shelter near Port Grace harbour, about the year 1,000. Robertson and Pinkerton were of opinion, that Newfoundland was first colonized by the Norwegians. Some years ago, a party of settlers, proceeding up a river which falls into Conception Bay, observed at a distance of six or seven miles from the bay the appearance of stone walls rising above the surface. On removing the sand and alluvial earth, they ascertained these to be the remains of ancient buildings, with oak beams, and millstones sunk in oaken beds; inclosures resembling gardens were also traced out, and plants of various kinds, not indigenous to the island, were growing around. Among the ruins were found different European coins, some of

Dutch gold, considered to be old Flemish coins, others of copper, without inscriptions.

According to a paper furnished to the Royal Geographical Society, doubts are entertained of the antiquity of the buildings, which are supposed by Captain Robinson to be probably of no more ancient date than the settlement of Lord Baltimore; but the finding of coins of virgin gold is not questioned. This, however, is a matter of antiquarian research, which does not come within the limits of the present work. We, therefore, pass on to the re-discovery of the island by Cabot, who, having obtained a commission from Henry VII. during his first voyage in 1497, observed a headland, which he called Prima Vista.

"It has been conjectured by some," says lieutenant-colonel Sir Richard Bonnycastle, in his valuable work, entitled *Newfoundland in 1812*, "that Cabot must have meant Labrador as the place of his discovery, because there are no white bears" (mentioned by Cabot in the brief account of his voyage, written by him on a map, which was deposited in the Privy Gallery at Whitehall,) "in Newfoundland. This, I apprehend, is false reasoning. There is a place even on the south coast called White Bear Bay, and it is quite probable that the polar bear has, like the walrus or sea-horse, been driven away by the increasing fisheries." However this may be, it certainly was discovered by Cabot in this voyage, and, on that account, ever after claimed by Britain. In 1550, the *new-found* island was visited by Cortereal, who, after giving Conception Bay the name it still bears, sailed along the coast of Northern America, then called Baccalaos, from an Indian word signifying cod-fish. The fisheries of Newfoundland speedily drew attention; and the crew of an English ship, on returning home, stated that they had left 40 vessels,—Portuguese, French, and Spanish, engaged therein. The details of the voyage of Verrazano, in 1525, on which

the French founded their claim to Newfoundland and the adjacent provinces, are exceedingly vague. In 1531, Jacques Cartier arrived at Cape Bonavista, and, on his return to France, was most favourably received. An expedition was fitted out, under his direction, in the following year, whose success has been already mentioned at the commencement of the history of Canada. About this time several attempts were made by England to colonize Newfoundland. "Master Robert Hore," a merchant of London, "with divers other gentlemen," sailed in 1536, thinking to winter there; but the crew were nearly starved to death, compelled to resort to the most loathsome expedients, and would have perished had they not met with a French ship laden with provisions, which they seized, and brought to England. Henry VIII. of England satisfied the French claim for indemnity by paying for the seized vessel. The expedition, in 1583 of Sir Humphrey Gilbert, the half-brother of Sir Walter Raleigh, has been already recounted, (see page 3, Vol. I.) but the following detail respecting the death of the gallant adventurer may not be unacceptable:—"Sir Humphrey, on his return from surveying the coast in the *Little Squirrel*, learned the wreck of the *Delight* from those who had escaped. He then reluctantly made preparations for crossing the ocean, declaring that he 'would fit out an expedition royally, and return next spring.' He was strongly urged to quit the nut-shell in which he had embarked, and go on board the *Golden Hind*. His reply is characteristic of the brother-in-law of Raleigh, 'I will not forsake my little company, with whom I have passed so many storms and perils.' They reached the Azores in safety, but there encountered a storm of so terrible a nature that it quailed their hearts, Sir Humphrey alone retaining his self-possession. The *Golden Hind* kept as near the *Little Squirrel* and her brave admiral as the perilous mountains of water would permit, and the crew, in their dismay, saw him sitting and calmly reading on the deck, and heard him bid them be of good cheer, 'for,' said he, 'we are as near to heaven by sea as by land.' At night the blackness of darkness fell upon the ocean, the lights in the *Squirrel* suddenly disappeared, and this is all that will ever be chronicled of the fate of one of the bravest of the adventurers who sought, in the glorious reign of Elizabeth, to extend the dominion of England in the western

world. Of all the armament the *Golden Hind* alone reached England, and she was a mere wreck."—(See Bonnycastle's *Newfoundland* in 1842, and Hackluyt, page 679.)

In 1585, according to our next accounts, a voyage was made to Newfoundland by Sir Bernard Drake, who claimed its sovereignty and fishery in the name of Queen Elizabeth. Sir Bernard seized several Portuguese ships laden with fish, and oil, and furs, and returned to England; but, owing to the war with Spain, and the alarm caused by the Spanish armada, several years elapsed before another voyage was made to the island. An effort for its colonization was made in 1610, in virtue of a patent granted by James I. to the Lord Chancellor Bacon, Lord Verulam, the Earl of Northampton, Lord Chief Baron Taunfield, Sir John Doddridge, and forty other persons, under the designation of the "Treasurer and Company of Adventurers and Planters of the Cities of London and Bristol for the Colony of Newfoundland." The patent granted the lauds between Capes St. Mary and Bonavista, with the seas and islands lying within *ten* leagues of the coast, for the purpose of securing for ever the trade of fishing to British subjects. Mr. Guy, an intelligent and enterprising merchant of Bristol, who planned this expedition, settled in Conception Bay, remained there two years, and then returned to England, leaving the colony (of whose capacities he had given a somewhat exaggerated description in his letters home), in charge of William Colston, whose report concerning the island is far less favourable. Twenty-five of the settlers were seized with scurvy, six of whom died, the rest had recovered, it is stated, by using turnips. Guy went back in the summer of 1812, and exerted himself successfully in the arrangement of the colony. He undertook a survey of the coast, and met with two canoes of Red Indians, with whom he held friendly intercourse. From this period little is known of him; he appears to have subsequently abandoned the settlement, which, deprived of his energy and example, soon languished.

In 1615, Captain Whitbourne, a contemporary of Sir Humphrey Gilbert and Sir Bernard Drake, who had himself made many voyages to Newfoundland, was sent there with a commission from the admiralty, to establish order, investigate the abuses complained of by the fishermen, and repress the flagrant dishonesty too generally manifested. Immediately on his arrival he held a court,

at which one hundred and seventy masters of vessels submitted themselves to his jurisdiction, and he endeavoured to enchain juries in the most frequented harbours. Two years from this period, Whitbourne was appointed chief of a body of Welshmen, dispatched by Doctor Vaughan to form a settlement called Cambriol (now Little Britain) in the south part of the island, on land purchased from the patentees. The first effort, however, which can be said to have been attended with permanent success, was that made in 1623 by Sir George Calvert, afterwards Lord Baltimore, who having obtained the grant of a considerable tract between Cape St. Mary and the Bay of Bulls (corruptly so called from the French name, "Baie des Boules,") determined upon establishing himself there with a number of his countrymen, who, with him, belonged to the church of Rome. The settlers fixed their head-quarters at Ferriland, where Lord Baltimore built a strong fort and good house, in which he resided until about twenty years from the first foundation of the settlement, which he called Avalon, from the ancient name of Glastonbury, where Christianity was first preached in Britain. At the expiration of this period his lordship returned to England, and through the favour of Charles I. founded a colony on the shores of Maryland, from which arose the fine city which bears his name. Another colony was sent to Newfoundland from Ireland by its then lord lieutenant Cary, Lord Falkland. In 1635, the king granted permission to the French to cure and dry fish, on condition of their paying five per cent. of the produce. In 1660 they formed a settlement in the Bay of Placentia, which they long continued to occupy. In 1654, Sir David Kirk, having obtained from parliament a grant of land, proceeded thither with a few settlers; notwithstanding the continual bickering between the British and the French, who had established a colony at Placentia, the British population had increased to about 350 families. In 1663 we find a very interesting document issued by Charles I., and directed to the Lord Treasurer and others, desiring them "to erect a common fishery as a nursery for seamen;" and containing the first regulations for the "governing of his majesty's subjects inhabiting in Newfoundland, or trafficking in bays." In this year the British fisheries were exempted entirely from tax or toll, and the island would doubtless have rapidly increased in population

and prosperity but for the unjustifiable line of conduct pursued by the board of trade and plantations, to which they were instigated by the selfish jealousy of the parties by whom the fisheries were carried on. In 1670 Sir Josiah Child, the principal person connected with them, published a pamphlet to prove that the cod fishery had declined since 1605, which he stated then employed 250 vessels, and did not now engage above 80. He imputed this decrease to the boat fishery carried on by the inhabitants along the coast, and he urged that if they were permitted to multiply, they could carry on the whole fishery, and the nursery of seamen be thus destroyed. He therefore advised not only the forcible prevention of any further immigration taking place in Newfoundland, but urged the remedy of displanting. To the calm and dispassionate reader it must appear barely credible that such a suggestion could be for a moment entertained, much less acted upon by a British government, yet this was actually the case. In the year 1667 the residents had applied for a governor, but their request had been set aside in consequence of its being violently opposed by the English merchants; in 1671 they renewed their application, which was rejected, and Sir John Berry was sent out with orders for the deportation of the settlers, the destruction of their houses, and in fact the entire uprooting of the thriving colony which had been reared at the heavy cost of the energies, treasure, and even life-blood, of several of England's best and bravest sons. Happily for the wretched people, Sir John Berry was a man of humane character, and while mitigating as far as lay in his power his cruel commission, he sent home strong remonstrances against the misery which he was reluctantly compelled to occasion. In 1676, Mr. Downing, one of the residents, obtained an order from the king, to prevent any further persecution, accompanied however by strict injunctions, forbidding any vessel to take out emigrants, or any person to settle in Newfoundland. Complaints constantly assailed the government that these laws were evaded; representations were made on one side and counter-representations on the other, but no further rigorous measures appear to have been taken, and in 1697 the board of trade published a report, stating that a number of inhabitants, not exceeding one thousand, might be usefully employed in constructing boats, stages for drying the fish, and other

matters connected with the fisheries. On the accession of William III., war broke out with France, one of the causes on the part of Britain being set forth as follows:—"That of late the incroachments of the French upon Newfoundland, and his majesty's subjects' trade and fishery there, had been more like the invasions of an enemy than becoming friends, who *enjoyed the advantages of that trade only by permission.*" The French on their part avowed their desire to attain exclusive possession of the island. In September, 1692, commander Williams attacked Placentia, but owing to the spirited defence of the French governor, the expedition succeeded only in burning the works on Point Vesti. On the other hand Chevalier Nesmond, in 1696 arrived with a squadron, and aided by the force on the island, made a descent on the town and harbour of St. John, but having failed he returned to France. Before the close of the year the French were more successful, for another squadron arriving under Brouillon, he in concert with Iberville the French commander, attacked St. John, which being now short of military stores, and in a very defenceless state, was compelled to surrender, upon which the town and fort were set on fire, and the garrison sent on parole to England.

The French admiral appears to have done nothing further in consequence of a misunderstanding with Iberville, who commanded the troops, proceeded to destroy by fire and the sword all the British stations, excepting those at Bonavista and Carbonier (on Conception Bay), where he was successfully resisted by the settlers; he then returned to Placentia. "The dogs of war" seemed now fairly let loose on the unhappy island, whose possession both France and England showed themselves resolved to contest to the uttermost. A British squadron, with 1,500 men on board, was dispatched, under the command of admiral Nevil and Sir John Gibson, but owing to the cowardice of one commander and the ignorance of the other, nothing was effected to retrieve the disastrous position of affairs, until the peace of Ryswick, in 1698, put an end to hostilities, and replaced matters, as far as possible, in the position they were in prior to the war. Several acts of parliament were passed, regulating the fisheries (now declared free to all his majesty's subjects) and the importation of fish, taken by foreigners in foreign ships, was strictly prohibited. An attempt was made to remedy the disorder

and misrule which had now reached an alarming height, by directing that the master of the first ship arriving at any station, should receive the title of admiral for the season, and the second and third those of rear and vice-admirals, and that they should be invested with a certain jurisdiction over the seamen and fishermen. The effect of the shifting and irresponsible tribunal thus established proved very unsatisfactory, for the judges, notwithstanding their high-sounding titles, were repeatedly bribed by presents of fish to give false decisions, as might have been expected from the general laxity which had long prevailed. The brief interval of peace was very differently employed by the rival nations. The French wisely encouraged colonization, and gradually occupied the most important positions in Newfoundland; the English continued to discourage it, and speedily experienced the effects of their misjudged policy, since, in the war which began in 1702, Newfoundland (in the words of Sir Richard Bonnycastle) "instead of having a hardy native population to resist or overwhelm their ambitious and restless neighbours, had to depend on the occasional presence of ships of war." On the declaration of the famous "war of the succession," Sir John Leake was immediately dispatched by Queen Anne with a small squadron, to take possession of the whole island, which he failed in doing, although he succeeded in destroying several French settlements and capturing a number of vessels, with which he returned to England at the close of the year. In August, 1703, admiral Graydon was sent with a fresh fleet off the coast of Newfoundland, but owing to a fog, which continued with great density for thirty days, his ships were dispersed, and could not be brought together till the 3rd of September. He then called a council of war, as to the practicability of attacking the strong-hold of the French, at Placentia, and it was decided that it would not be prudent to do so with the force at his disposal; on which he returned to England, where his conduct was severely censured. In 1705 the garrison of Placentia, reinforced by 500 men from Canada, attacked the British colonists, and attempted to become sole masters of the island by attacking the harbour of St. John's, where they were repulsed, but they succeeded in gaining possession of several settlements, destroyed Fort Porillon, and spread their ravages as far north as Bonavista. In 1706, the British

again expelled them from their recent conquests, and Captain Underdown, with only ten ships, destroyed several of the enemy's vessels in the harbours along the coast, notwithstanding that the French had as many as ten armed vessels on that station. Although parliament earnestly entreated the queen to "use her royal endeavours to recover and preserve the ancient possessions, trade, and fisheries of Newfoundland," little attention was paid to their urgent address, the whole disposable force being assigned to the Duke of Marlborough, at that time in the midst of his victorious career. The French, however, notwithstanding their repeated disasters on the continent, still found leisure to persevere in their endeavours for the expulsion of the English from Newfoundland, and accordingly St. Ovide, the French commander at Placentia, having effected a landing without being discovered, within five leagues of St. John's, attacked and completely destroyed it, on the 1st of January, 1708.

The French then seized on every English station except Carbonier, which was again bravely defended by the fishermen.

The news of this misfortune produced great excitement in England, as the possession of the fisheries had ever been considered a point of immense importance, and an expedition was ordered, under Captain G. Martin, and colonel Francis Nicholson, to attempt to dispossess the French, but little was effected beyond the destruction of a few fishing stations. The British government being fully occupied by the events then taking place on the continent, were unable to take any immediate measures for the recovery of Newfoundland; but at the close of the war their brilliant successes enabled them to demand its restitution, which Louis XIV. was no longer in a condition to refuse, and by the celebrated treaty of Utrecht, in 1713, Louis conceded the exclusive sovereignty of Newfoundland and the adjacent islands to Great Britain, but retained for his subjects the right to cure and dry fish on the coast lying between Cape Bonavista, on the eastern side, and Point Riche, on the western, and also to occupy the islets of Pierre and Miquelon, with a garrison of fifty men on each. Of this permission the French availed themselves so actively, that in 1721 they employed 400 vessels in the trade, and not only supplied France with fish, but even rivalled the British in the ports of Spain and the Mediterranean, al-

though they also were actively engaged in carrying on the fisheries. In spite of every disadvantage colonization was making rapid strides, and in 1729, on the representations of Lord Vere Beauclerk, the naval commander stationed at Newfoundland, the island was withdrawn from the nominal administration of the governor of Nova Scotia, and formed into a separate province. Captain Henry Osborne, of H.M.S. Squirrel, was appointed governor and commander-in-chief, but required by his commission to obey the instructions of Lord Vere Beauclerk. He was empowered to appoint justices of the peace and other officers, and copies of *Shaw's Practical Justice of the Peace*, and of the leading enactments relating to the country, were sent to the eleven principal stations. The governor was indefatigable in his exertions: he built a jail and court-house, and held his courts of record according to the laws of England, notwithstanding the opposition he encountered from the "fishing admirals," while even from the justices of the peace appointed by himself he did not receive zealous support, as according to chief justice Reeves, "partly from the indifference of some of the justices in their offices, who thought they suffered in their way of trade, and got the ill-will of the people they dealt with, and partly from the incapacity of others, the commissions of the peace were but indifferently executed." The home government at length awakened to the necessity of establishing a regular system of jurisdiction in Newfoundland, would no longer be influenced by the intrigues of an interested and selfish party, and to this end measures were discussed and adopted. In 1742, a court of admiralty was appointed, and in 1751, much difficulty and expense having arisen from the local authorities not having the power of life and death, Captain Drake, then governor, was directed to appoint commissioners of Oyer and Terminer for the trial of felons in Newfoundland. In 1754 Lord Baltimore renewed his claim for the tract of country called the Province of Avalon, but the board of trade decided the title to have lapsed. At this period the naval governors (according to Sir R. Bonnycastle) usually remained in charge of the ships appointed to protect the fisheries for two or three years, going home at the close of every autumn, and living chiefly afloat. In 1765 war recommenced between France and England, and Newfoundland was left in a very defenceless state, of which a French

squadron taking advantage, arrived in the Bay of Bulls in 1762, and succeeded in capturing St. John's, Carbonier, and the village of Trinity. Tidings of these disasters were despatched to Lord Colville, the British commander-in-chief, then stationed at Halifax, who lost no time in obeying the summons, and succeeded in dislodging the French, and obliging their Admiral (de Ternay) to make a precipitate retreat. The zealous exertions of the colonists, and the decided loyalty manifested by them, deserve especial notice. Two remarkable instances are cited by Sir R. Bonnycastle. One gentleman, Mr. Carter, of Ferryland, supported the garrison and inhabitants who had fled from St. John's to the Isle aux Bois, from the 21th of June to the 9th of October, 1762, by procuring provisions and other necessaries, although he could obtain them only with great difficulty, and at an exorbitant price; and Mr. Charles Garland, then a merchant at Carbonier, in Conception Bay, paid, fed, and supported a detachment of men who garrisoned a large battery on an island near the mouth of the harbour, and raised numerous squads of sailors for the temporary use of the fleet. On the 10th of February, 1763, by the famous peace of Paris, France formally yielded Newfoundland with the other American colonies, and England confirmed the thirteenth article of the Treaty of Utrecht, by the fifth and sixth articles of the Peace of Paris, of which articles I subjoin a copy:—

"*Treaty of Utrecht, 1713.*—Art. 13.—The island called Newfoundland, with the adjacent islands, shall from this time forward belong of right wholly to Great Britain; and to that end the town and fortress of Placentia, and whatever other places in the said island are in possession of the French, shall be yielded and given up, within seven months from the exchange of the ratifications of this treaty, or sooner, if possible, by the most Christian king, to those who have a commission from the queen of Great Britain for that purpose. Nor shall the most Christian king, his heirs and successors, or any of their subjects, at any time hereafter, lay claim to any right to the said island or islands, or to any part of it, or them. Moreover, it shall not be lawful for the subjects of France to fortify any place in the said island of Newfoundland, or to erect any buildings there, besides stages made of boards, and huts necessary and usual for drying fish; or to resort to the said island beyond the time necessary for fishing and drying of fish. But it shall be allowed to the subjects of France to catch fish, and to dry them on land, in that part only, and in no other besides that, of the said island of Newfoundland, which stretches from the place called Cape Bonavista to the northern point of the said island, and from thence running down by the western side, reaches as far as the place called Point Riche. But the island called Cape Breton as also all others,

both in the mouth of the river St. Lawrence, and in the gulf of the same name, shall hereafter belong of right to the French; and the most Christian king shall have all manner of liberty to fortify any place or places there."

"*Treaty of Paris, 1763.*—Art. 5.—The subjects of France shall have the liberty of fishing and drying, on a part of the coasts of the island of Newfoundland, such as it is specified in the 13th article of the treaty of Utrecht: which article is renewed and confirmed by the present treaty (except what relates to the island of Cape Breton, as well as to the other islands and coasts in the mouth and in the Gulf of St. Lawrence;) and his Britannic majesty consents to leave to the subjects of the most Christian king the liberty of fishing in the Gulf of St. Lawrence, on condition that the subjects of France do not exercise the said fishery but at the distance of three leagues from all the coasts belonging to Great Britain, as well those of the continent as those of the islands situated in the said Gulf of St. Lawrence. And as to what relates to the fishery on the coasts of the island of Cape Breton out of the said gulf, the subjects of the most Christian king shall not be permitted to exercise the said fishery but at the distance of fifteen leagues from the coasts of the island of Cape Breton; and the fishery on the coasts of Nova Scotia or Acadia, and everywhere else out of the said gulf, shall remain on the foot of former treaties."

"Art. 6.—The King of Great Britain cedes the islands of St. Pierre and Miquelon, in full right, to his most Christian majesty, to serve as a shelter to the French fishermen; and his said most Christian majesty engages not to fortify the said islands; to erect no buildings upon them, but merely for the convenience of the fishery, and to keep upon them a guard of fifty men only for the police."

In 1763, the coast of Labrador was annexed to the government of Newfoundland. Whales and seals were at that time the chief objects of pursuit on the coast; the trade was carried on by sloops and schooners from British America, and yielded a very valuable produce. In 1764, captain, afterwards Sir Hugh Palliser, was sent out as governor, and a collector and comptroller of customs, established at St. John's, and in the following year the navigation laws were extended to Newfoundland, notwithstanding the opposition made by the merchants and fishing adventurers. Sir Hugh, by his energy and love of justice, did much for the colony, and greatly ameliorated the condition of the poor fishermen, whose rights he strenuously maintained. By his advice an act was passed, commonly called "Sir Hugh Palliser's Act," by which the masters of vessels are compelled, under a heavy penalty, to secure the return of the seamen to England, and to pay them in money instead of in articles of supply. Newfoundland was increasing in population and importance, when it received a severe check from the revolt of the American colonies, who having renounced all commer-

cial intercourse with the mother country, were, after some discussion, excluded from the fisheries. These colonies then furnished Newfoundland with produce to the amount of £350,000 annually, and it was supposed that this intercourse being still left open to them, they would, without doubt, continue to avail themselves of the large profits which it afforded. This, however, was not the case, their exports were discontinued, and the people of Newfoundland were saved from starvation only by the most strenuous exertions on the part of Britain. Large supplies of food were sent out, and liberal bounties granted to the fisheries. A law passed in 1775, allowed £10 to the first twenty-five ships, £20 to the next hundred, and £10 to the second hundred, which should land a cargo of fish in Newfoundland before the 15th July, and proceed to the banks for a second lading. In 1778, a treaty offensive and defensive between France and the United States was concluded, upon which vice-admiral Montague took possession of St. Pierre and Miquelon, and sent to France 1932 French, whom he found residing there. In 1783, peace was for a brief interval again restored; the following extracts from the treaty of Versailles show the terms agreed upon between the kings of England and France, with regard to Newfoundland and the fisheries:—

Treaty of Versailles, 1783.—Art. 4. "His Majesty the King of Great Britain, is maintained in his right to the island of Newfoundland, and to the adjacent islands, as the whole were assured to him by the thirteenth article of the treaty of Utrecht; excepting the islands of St. Pierre and Miquelon, which are ceded in full right, by the present treaty, to His most Christian Majesty."

Art. 5. "His Majesty the most Christian King, in order to prevent the quarrels which have hitherto arisen between the two nations of England and France, consents to renounce the right of fishing, which belongs to him in virtue of the aforesaid article of the treaty of Utrecht, from Cape Bonavista to Cape St. John, situated on the eastern coast of Newfoundland, in 50° North lat.; and his Majesty the King of Great Britain consents, on his part, that the fishery assigned to the subjects of his most Christian Majesty, beginning at the said Cape St. John, passing to the north, and descending by the western coast of the island of Newfoundland, shall extend to the place called Cape Ray, situated in 47° 50' lat. The French fishermen shall enjoy the fishery which is assigned to them by the present article, as they had the right to enjoy that which was assigned to them by the treaty of Utrecht."

Art. 6. "With regard to the fishery in the Gulf of St. Lawrence, the French shall continue to exercise it, conformably to the fifth article of the treaty of Paris."

Declaration of his Britannic Majesty.—1. "The King having entirely agreed with his most Christian Majesty upon the articles of the definite treaty, will

seek every means which shall not only insure the execution thereof, with his accustomed good faith and punctuality, but will beside give, on his part, all possible efficacy to the principles which shall prevent even the least foundation of dispute for the future. To this end, and in order that the fishermen of the two nations may not give cause for daily quarrels, his Britannic Majesty will take the most positive measures for preventing his subjects from interrupting, in any manner, by their competition, the fishery of the French, during the temporary exercise of it which is granted to them upon the coasts of the island of Newfoundland; and he will for this purpose cause the fixed settlements, which shall be formed there, to be removed. His Britannic Majesty will give orders that the French fishermen be not incommoded in cutting the wood necessary for the repair of their scaffolds, huts, and fishing vessels."

"The thirteenth article of the treaty of Utrecht, and the method of carrying on the fishery, which has at all times been acknowledged, shall be the plan upon which the fishery shall be carried on there: it shall not be deviated from by either party; the French fishermen building only their scaffolds, confining themselves to the repair of their fishing-vessels, and not wintering there; the subjects of his Britannic Majesty on their part, not molesting in any manner the French fishermen during their fishing, nor injuring their scaffolds during their absence."

"The King of Great Britain, in ceding the islands of St. Pierre and Miquelon to France, regards them as ceded for the purpose of serving as a real shelter to the French fishermen, and in full confidence that these possessions will not become an object of jealousy between the two nations; and that the fishery between the said islands and that of Newfoundland shall be limited to the middle of the channel."

"MANCHESTER.

"Given at Versailles, the 3rd September, 1783."

Counter Declaration of his most Christian Majesty.—The principles which have guided the King in the whole course of the negotiations which preceded the re-establishment of peace must have convinced the King of Great Britain that his Majesty has had no other design than to render it solid and lasting, by preventing as much as possible, in the four quarters of the world, every subject of discussion and quarrel."

"The King of Great Britain undoubtedly places too much confidence in the uprightness of his Majesty's intentions, not to rely upon his constant attention to prevent the islands of St. Pierre and Miquelon from becoming an object of jealousy between the two nations."

"As to the fishery on the coasts of Newfoundland, which has been the object of the new arrangements settled by the two sovereigns upon this matter, it is sufficiently ascertained by the fifth article of the treaty of peace signed this day, and by the declaration likewise delivered to-day by his Britannic Majesty's Ambassador Extraordinary and Plenipotentiary; and his Majesty declares that he is fully satisfied on this head."

"In regard to the fishery between the island of Newfoundland, and those of St. Pierre and Miquelon, it is not to be carried on by either party but to the middle of the channel; and his Majesty will give the most positive orders that the French fishermen shall not go beyond this line. His Majesty is firmly persuaded that the King of Great Britain will give like orders to the English fishermen."

"Given at Versailles, the 3rd September, 1783."

The rights of fishing conceded to the citizens of the United States are clearly specified in the accompanying extract :—

Treaty of 1783.—Art. 3. "It is agreed that the people of the United States shall continue to enjoy unmolested the right to take fish of every kind on the Grand Bank, and all other Banks of Newfoundland, also in the Gulf of St. Lawrence, and at all other places in the sea, where the inhabitants of both countries used at any time heretofore to fish; and also that the inhabitants of the United States shall have liberty to take fish of any kind on such part of the coast of Newfoundland as British fishermen shall use (but not to dry and cure the same on that island), and also in bays and creeks of all other of his Britannic Majesty's dominions in America; and that the American fishermen shall have liberty to dry and cure fish in any of the unsettled bays, harbours, and creeks of Nova Scotia, Magdalen Islands, and Labrador, so long as the same shall remain unsettled; but so soon as the same or either of them shall be settled, it shall not be lawful for the said fishermen to cure and dry fish at such settlements without a previous agreement for that purpose with the inhabitants, proprietors, or possessors of that ground."

In 1785 the resident population of Newfoundland, amounted to 10,244, who had 8,034 acres of land under cultivation, but this increase in numbers, and civilization, only made more evident the inefficiency of the existing system of government, to restrain disorders, redress grievances, and settle the questions respecting the rights to landed property and ship-room, concerning which memorials were continually sent to England. In 1789, admiral Milbanke was appointed governor, with authority to form a Court of Common Pleas, which, however, failed to produce the desired effect, and in 1792 a Supreme Court of Judicature was established, with surrogate courts in the principal districts, John Reeves, Esq. being sent out as chief justice. War was again declared between England and France, but this time Newfoundland, instead of suffering thereby, received much benefit. The British squadron was not only sufficiently strong to protect the fisheries, but also to exclude the other European nations, while the United States had not then the power of entering into any formidable rivalry. In 1814, the exports are said to have risen to £2,831,528. In the same year peace was concluded, and the British government (or rather Lord Castlereagh), notwithstanding the urgent remonstrance of the merchants and others connected with the trade, conceded to France the same privileges which she had possessed previous to the war, by virtue of the following article in the treaty of Paris :—

Treaty of Paris, 1814.—Art. 8.—"His Britannic majesty, stipulating for himself and his allies, engages to restore to his most Christian majesty, within the term which shall be hereafter fixed, the colonies, fisheries, factories, and establishments of every kind which were possessed by France on the 1st of January, 1792, in the seas, and on the continents of America, Africa, and Asia, with exception, however, of the islands of Tobago and St. Lucie, and the Isle of France and its dependencies, especially Rodrigues and Les Sechelles, which several colonies and possessions his most Christian majesty cedes in full right and sovereignty to his Britannic majesty, and also the portion of St. Domingo ceded to France by the treaty of Basle, and which his most Christian majesty restores in full right and sovereignty to his Catholic majesty."

Art. 13.—"The French right of fishery upon the Great Bank of Newfoundland, upon the coasts of the island of that name, and of those adjacent islands in the St. Lawrence, shall be replaced upon the footing in which it stood in 1792."

In virtue of this treaty, the French set up an *exclusive* right of fishing on that part of the coast, where they only possessed a *concurrent* privilege.

Newfoundland suffered a serious diminution, both in the quantity of fish secured, and the price obtained for it, by the severe competition to which the British were immediately subjected, and the contest was rendered very unequal by the large bounties with which the French government supported their subjects, and the encouragement given them in supplying foreign markets. In February, 1816, the capital, St. John, was almost destroyed by fire, and the inhabitants were reduced to extreme distress, relieved only by the prompt assistance of the neighbouring colonies, and of the citizens of Boston, in the United States, by whom they were gratuitously supplied with food. The loss is said to have amounted to upwards of £100,000, and 1,500 people were driven, in the most inclement season of a Newfoundland winter, to seek refuge on board the shipping in the harbour, and failing that, to find shelter where they could. But the misery of the unfortunate people, rendered the more acute by the brief season of high prosperity which they had enjoyed during the war, had not yet reached the climax. On the 7th of November, in the following year, another calamitous fire broke out in St. John's, by which thirteen merchants' establishments and 140 dwelling-houses were totally consumed. The value of the property thus destroyed (including large supplies of provisions and goods) was estimated at £500,000, and on the 21st of the same month, another fire burnt 56 of the remaining houses down to the ground.

The winter of 1818 is said to have been most unusually severe, and in the midst of it Admiral Pickmore, the first naval officer who had been directed to remain on the island during the winter season, expired, being the first of a long succession of administrators, for a period of sixty-eight years, who died in the colony. In the convention with the United States, negotiated during this year, the opportunity was taken not only of confirming but of extending the stipulations with regard to the fisheries, contained in the former treaty. "Whereas," says the convention, "differences have arisen respecting the liberty claimed by the United States for the inhabitants thereof, to take, dry, and cure fish on certain coasts, bays, harbours, and creeks of his Britannic Majesty's dominions in America: it is agreed between the single contracting parties, that the inhabitants of the said United States shall have *for ever*, in connection with the subjects of his Britannic Majesty, the liberty to take fish of every kind on that part of the southern coast of Newfoundland which extends from Cape Ray to the Quiperon Islands, on the shores of Magdalen Islands, and also on the coasts, bays, harbours, and creeks, from Mount Joly, on the southern coast of Labrador, to and through the Straits of Belleisle, and thence northwardly, indefinitely along the coast, without prejudice, however, to any of the exclusive rights of the Hudson's Bay Company."

Admiral Pickmore was succeeded by Sir Charles Hamilton as resident governor, the cod and seal fisheries became less depressed, and a brighter era again dawned upon the colony; but the system of legal jurisprudence was still far from giving satisfaction, and in 1824 a bill passed the imperial government by which the island was divided into three districts, in each of which a court was annually to be held. A chief and two puisne judges, a sheriff, and other law officers were appointed. In 1830 the Chamber of Commerce at St. John's sent a vessel to try the *exclusive* right claimed by the French to fish on the western coast, from Cape St. John to Cape Ray, on our own island. The commander of the vessel sailed to St. Croque, was warned off by the commander of a French schooner mounting 16 guns, and a 32-gun frigate. The following is an abstract of the report of the English commander respecting his mission; the report itself was transmitted officially to the British government, but no steps have been taken to secure at least the

concurrent right of fishing to which the English are entitled. Commander Sweetland on arriving in St. Croque harbour states as follows:—

"Sent two boats fishing, which were driven from their anchorage by French boats dispatched for the purpose by Captain Deloram. They did not attempt to injure the men, but merely weighed their anchors, and ordered them to leave the coast, threatening, if they persisted in fishing, to cut them adrift, and force them to quit. Same day came in the French naval schooner *Philomele*, of 16 guns, commanded by Monsieur Lavoe, and anchored some little distance below us. She had not been at anchor many minutes, when the commander came on board to inquire my business. On being told I came to fish, said I must depart. In reply, stated that I came to assert my right as a British subject to fish there, and that nothing short of force would compel me to leave the port. He would see the captains, and send for me in the evening. Sent for accordingly, and I went on board the *Philomele*, when I met Monsieur Sayers, who had a fishing establishment at Croque. He asserted the exclusive right of the French to that part of the coast assigned them by treaty. I as strenuously insisted on my right, as a British subject, to fish there in common with them, as well as the Americans. This latter remark drew forth from Captain Lavoe first the minister's instructions on the subject of the American fishery on the north-west coast of the island. Denied their right, and were ordered to prevent them by every possible means. His instructions respecting the English fishermen were next produced. Instructed the French commanders not to permit the ingress of British fishermen more than was necessary for the protection or repair of their property in the winter, or during the absence of the French. That, according to their construction of the treaty, they had an exclusive right to the fishery on that coast, or that part of the island set apart to their use; therefore they were to be particular with those tolerated by the merchant captains, and to make them understand that they were suffered to reside amongst them, and to fish, not as a matter of right, but as an act of courtesy; and with regard to all other British subjects, they were, by every means in their power, to prevent their acquiring a right to fish on the coast; and in the execution of the instructions on that head, they were to be governed by the instructions relative to the Americans, viz. not to use compulsion in the first instance, but a gentle opposition, and an intimation to depart, which hitherto had been found sufficient; but if the parties were obstinate, then force was to be resorted to, in order to effect their departure.

"He then went into instructions relative to a salmon fishery at Cod Roy, in which a merchant of the name of Hunt was interested. That his men were in possession of it, and, although within the limits of the French coast, maintained themselves in their post by beating off the crew of a French vessel, sent expressly from France to possess themselves of it the previous year. That, since seeing me in the morning, he had seen the captains, who were unanimous in their determination to prevent my crew from fishing, and therefore he could not sanction my doing so; that I was not to attempt it again. That he should not attempt to remove me from the harbour; that I might remain as long as I pleased; he could not be so uncivil to any Englishman who

came in his way. Was particular in expressing his opinion that I had not any right, and that they were determined to prevent any boats from fishing, as often as they attempted it.

"I of course desisted from any further effort, but waited on the commander of the *Philomèle*, with my protests against Monsieur Deloram and others who had opposed me. He declined receiving them, and read the copy of a letter which he had addressed to the senior captains, directing them to prevent the *Hannah's* crew from fishing at Croque, or any other part in the French shore.

"The number of ships employed this season by the French in this fishery were 266 in all, viz.—From Grainville, 116; St. Maloe, 110; Pampol and Ben- nick, 30; Havre, 4; Nantz, 6. Total, 266 from 100 to 350 tons burthen, having 51 men and boys each, amounting in the whole to 13,566, one-tenth portion of whom were boys. This number surpassed considerably the governor's estimate, a very good reason for which was assigned to me by the French gentleman from whom I received the information. Each establishment had two, some four cod seines, from 16 to 30 fathoms deep, and 200 fathoms long. Their capelin seines were from 21 feet to 50 in depth: two were held by each establishment. The cost of a cod sein crew amounted for the season to 6,000 livres, and the catch thereof to 1,200 quintals.

"From the numerous interviews I had with the merchants and the naval commanders, it was apparent that they considered the cod fishery on that coast as their own, and that they would not consent to any competition, unless an equivalent were granted them: hence the orders issued by the ministers, the copy of which, handed me by the commodore, was similar to that displayed by Captain Lavoe:—viz. *That the Americans were to be driven from the coast, and the British not to be countenanced in greater numbers than were necessary for the security of the French property in the winter.* The absolute right of salmon fishery did not appear to be so strenuously insisted on as that of the cod; indeed, from the contest at Cod Roy, immediately within their own limits, and the evasive reply of the commodore on the question respecting it, together with other circumstances, it did not appear to me, that they considered they had any right to the brooks, or the shores of the harbours, other than that of catching and curing cod fish thereon.

"To the soil they had not any claim, further than that portion necessary for the purposes of their fishery. To insure sufficient space for that purpose they have invariably selected the best and most capacious situations in each harbour, and by occupying the whole front, preclude the possibility of any other person approaching the situation selected for this scene of their business.

"The coast abounds with timber of very excellent description for the purposes of the fishery. The land is good, for the most part producing every species of grass spontaneously, and in great abundance, free from bogs, and not a rush to be found on it or any portion of it. Indeed I could not discover any that could be deemed marshy, or at all approaching to it.

"A long period has since elapsed without any benefit resulting to this community, as the fruit of the expedition, which was sent forth at some considerable expense to the merchants at St. John's.

(Signed) "W.M. SWEETLAND."

The practical effect of the claims enforced

by the French of *exclusive* rights on our coast, and which as justly may be claimed on the coast of Sussex, is the virtual cession of the larger and better half of Newfoundland to France. So strong were the national feelings at one period respecting the value of the British fisheries, that—

"The Act of 10th and 11th William and Mary, declares the trade and fisheries of Newfoundland a beneficial trade to the kingdom, in the employment of a great number of seamen and ships, to the increase of her majesty's revenue and the encouragement of trade and navigation.

"The same parliament came to a resolution, 'that the trade of Newfoundland doth very much promote navigation, increase seamen, and is of great profit to the nation.'

"The privilege of fishing ceded to the French by the Treaty of Utrecht was loudly condemned; it formed one of the principal grounds of impeachment against the Earl of Oxford, 'that he, the said Robert, Earl of Oxford, and Earl Mortimer, in defiance of the express provisions of an Act of Parliament, as well as in contempt of the frequent and earnest representations of the merchants of Great Britain, and of commissioners of trade and plantations, did advise his majesty finally to agree with France that the subjects of France should have liberty of fishing, and drying fish in Newfoundland.'

"The committee of secrecy, in 1713, on the Treaty of Utrecht, reported, 'What was really of most importance to England was the 8th Article, which relates to Hudson's Bay and Newfoundland; but the ministry suffered themselves to be grossly imposed upon in the article that they directly gave to France: all they wanted, which was the liberty of taking and drying fish in Newfoundland. And as the acceptance of this amendment was to put an end to all the differences, and, at the same time, give such ample advantages to France, the French readily agreed to it, and did insert the article verbatim as it was sent in the treaty of commerce, which makes the 9th article as it stands; and is the same which was requested by the last parliament. This article, which has since been so universally and justly condemned, appears to be the work of the English ministry, and the price for which they sold to France the fishery of Newfoundland.'

Mr. Pitt declared, in the House of Commons, that no exclusive rights had been granted to the French. "*The fishery*," said he, in reference to the claim of Spain, "*is a point we should not dare to yield though the Spaniards were masters of the Tower of London*." The present excellent governor, Sir G. Le Marchant, reports that, by means of the French proceedings, "*the British Bank fishery has ceased to exist.*"

The subjects of the crown in Newfoundland feeling deeply the importance of the matter, have again brought it under the consideration of the colonial legislature, and a committee of the House of Assembly have in consequence made the following report thereon:—

The Newfoundland Fisheries.—"The Bank and Shore Fisheries have engaged the deep attention of your committee. These important subjects have not hitherto been investigated by the legislature; they have therefore considered it their duty to take a general review of them from the earliest period. These fisheries are coeval with the colonial dominion and maritime superiority of England. Newfoundland was her earliest colonial possession; the fisheries, the first nursery of those seamen that gained for her the dominion of the ocean, and with it her vast, unbounded colonial empire, and the trade of the world.

"Soon after the discovery of the island by Cabot, in the reign of Henry VII., the fisheries gave employment to a considerable number of ships and seamen. As far back as the year 1549, an Act of the British Parliament (Edward VI.) was passed for the better encouragement of the fisheries of Newfoundland. During the reigns of Elizabeth, James I., Charles I. and II., the trade and fisheries engaged much of the attention of the Crown and Parliament. There were two hundred and sixty ships employed in the Newfoundland fisheries in the reign of Elizabeth. The seamen nursed in these fisheries mainly assisted in manning her fleets, which defeated the powerful *Armada* of Spain.

"Charles I., in a commission for well-governing his subjects of Newfoundland, observes, 'the navigation and mariners of the realm have been much increased by the Newfoundland fisheries.' Various Acts were passed in the reign of Charles II., and measures were adopted to revive the fisheries of Newfoundland, which had greatly declined. The preamble of the Act 10th and 11th William and Mary declares, that 'the trade and fisheries of Newfoundland is a beneficial trade to the kingdom, in the employing of a great number of seamen and ships, to the increase of Her Majesty's revenue, and the encouragement of trade and navigation.'

"The Act 15th George III. declares the fisheries to be 'best nurseries for able and experienced seamen, always ready to man the Royal Navy when occasion may require; and it is of the greatest national importance to give all due encouragement to the said fisheries.'

"In 1763, Lord Chatham, then Mr. Pitt, negotiated in the first instance the treaty of Paris, which upon his resignation of office was concluded by Lord Bute. Lord Chatham, who had contended on the part of England for the whole exclusive fishery of Newfoundland, and affirmed it to be of itself an object worthy to be contested by the extremity of war, censured severely his successor in office, for having returned to France some of the privileges which she had before enjoyed upon the coast, and for having ceded, in addition, St. Pierre and Miquelon.

"By the Treaty of 1763, additional concessions were made to France in the fisheries of Newfoundland. No part of the treaty was more uniformly censured than that which related to Newfoundland. The preliminary articles were censured by a vote in the House of Commons, and the ministry of the day had to retire: however, the advantages ceded to the French were confirmed. Lord Viscount Townshend said, 'The admission of that nation (the French) to a participation of the Newfoundland fisheries, was a piece of the most dreadful policy and concession that ever disgraced a nation.' Mr. Fox said, 'it was evident that our fisheries in Newfoundland, so much boasted of, were in a manner annihilated, not to men-

tion the impolicy of ceding St. Pierre and Miquelon.' Sir Peter Burrell said, 'Will any gentleman say that leaving the Americans liberty to dry their fish on the unsettled coast of Newfoundland was the way to prevent disputes? For his part, he saw, in the wording of the treaty, an eternal source of quarrels and disputes; and when he considered the footing on which the Americans are with the French, he was not without his apprehensions, that the right which the treaty granted to the latter to dry their fish on a coast near 190 miles in length, would occasion various attempts to bring in the Americans to this privilege.' Lord Mulgrave on the same occasion, said, 'he considered the Greenland fisheries much inferior to the Newfoundland fisheries.' Mr. Pitt expressed similar opinions.

"The great advantages in a national point of view, of the Newfoundland fisheries, have been fully admitted by the most eminent statesmen of a later period. On a motion proposed by Sir John Newport, in 1815, in which he expressed his views of the vast importance of the fisheries of Newfoundland, Lord Castlereagh said, 'he concurred with much of what had been said by the right hon. Baronet as to the value of the fisheries; he most completely coincided with him, that they were not only valuable as a great source of wealth to the country, but they were still more so as a source of maritime strength.'

"The greatest of trade ministers, the late lamented Mr. Huskisson, in his celebrated speeches upon the shipping interest, colonial trade and navigation, never lost sight of the great importance of the fisheries. To the support of them, as a great source of the maritime power of England, he assented to a deviation from the great leading principles of his own commercial system. In that eminent statesman's speech on the Navigation Laws of the United Kingdom, he says—

"The ocean is a common field, alike open to all the people of the earth: its productions belong to no particular nation. It was therefore our interest to take care that so much of those productions as might be wanted for the consumption of Great Britain, should be exclusively procured by British industry, and imported in British ships. This is so simple and so reasonable a rule, that in this part of our navigation system no alteration whatever has been made, nor do I believe that any ever will be contemplated.' Sir Howard Douglas said that 'the fisheries in the British quarters of America were the most productive in the world; if they were not ours, whose would they be? What would be the effect of the total abandonment and transfer to another power of this branch of industry, upon our commercial marine, and consequently upon our naval ascendancy?'

"Your committee could, without end, produce authorities, both British and Foreign, to prove the inestimable value of the fisheries on the Great Bank and shores of Newfoundland. The French government have at all periods duly estimated its importance. The Americans, even before they were separated from the government of the parent country, but more particularly since, have lost no opportunity to extend the Fisheries in the gulf of St. Lawrence, and on the banks and shores of Newfoundland. Your committee would conclude upon this head by referring to the opinion of a celebrated French authority (L'Abbé Raynal on the great value, in a commercial and national point of view, of the Newfoundland fisheries):

"The Colonies,' he says, 'have exhibited a series of injustice, oppression, and carnage, which will for ever be holden in detestation. Newfoundland alone

hath not offended against humanity, nor injured the rights of any other people. The other settlements have yielded productions only by receiving an equal value in exchange. Newfoundland alone hath drawn from the depths of the waters riches formed by nature alone, and which furnish subsistence to several countries of both hemispheres. How much time hath elapsed before this parallel hath been made,—of what importance did fish appear when compared with the money which men went in search of in the New World? It was long before it was understood, if even it be yet understood, that the representation of the thing is not of greater value than the thing itself, and that a ship filled with cod and a galleon are vessels equally laden with gold;—there is even this remarkable difference, that mines can be exhausted, and the fisheries never are. Gold is not reproductive, but the fish are so incessantly.

"Your committee consider it necessary to explain the grounds on which they refer to so many authorities to prove the value of the Newfoundland fisheries. The proposition, as far as they could learn, has never yet been questioned. They were induced to make these references in consequence of the utter neglect with which these fisheries have been regarded by the British government since the peace of 1814, on the one hand, and the avidity with which they were prosecuted by the French and American governments, on the other. Great Britain, who owns, supports, and defends these colonies and fisheries, and has derived from them the principal means of defending herself, gave up at the conclusion of the war, to her vanquished opponents, the most valuable portions of her coasts and waters. To the French, in 1814, she conceded the north coast and western coast of Newfoundland, from Cape St. John to Cape Ray; to the Americans, in 1818, she gave up the right of taking fish on the southern and western coast of the same island, from the Rameau islands to Cape Ray, and from Cape Ray to the Quirpon islands, to the Magdalen islands, and on the whole coast of Labrador, from Mount Jolly northwards, to the limits of Hudson's Bay, together with the liberty of using the unsettled parts of Labrador and Newfoundland for drying and curing fish." It cannot be questioned that Great Britain, by these concessions, ceded to the French and the Americans the best fishing-grounds; and these governments, to make the most of the advantages, grant large bounties for the encouragement of these fisheries, with the avowed purpose of increasing their maritime strength. Your committee may therefore state that the Newfoundland fisheries, instead of being, in the words of the British Act of Parliament, a nursery for seamen to man the British navy when occasion should require, have become converted into the best nursery both for the French and American navies.

"The Deep-Sea fishery on the Grand Bank and other Banks can only be prosecuted in crafts and vessels of a large size, and with an expensive outfit. The French and Americans, by their bounties, are enabled to prosecute them to advantage; while every attempt of the British has proved a failure, arising, not from want of skill or enterprise on their parts, but altogether from the advantage enjoyed in the form of bounties by their foreign rivals. The unequal competition has swept the British ships from that fishery; it is now monopolised by French and Americans, and without a rival. As the Newfoundland fisheries are now comprised of that portion carried on by the British, that by the French, and that

by the Americans, your committee will give an abstract of each fishery, founded on such information, official and otherwise, as they could obtain.

"1st. *The British Fisheries.*—In 1615, Captain R. Whitbourne represents the British fisheries as employing 250 ships, averaging about 60 tons, and 20 mariners to each ship—in all, 15,000 tons of shipping, 5,000 seamen, and 1,250 fishing-boats. In 1644, in a representation made, the fishery was represented to consist of 270 sail of ships, computed at 80 tons each, and for every 80 tons, 50 men—in all, 21,600 tons, and 10,800 seamen. In the reign of Charles II. the British fishery greatly declined, and the French fishery advanced in proportion. In 1677, the British fishery is represented to consist of 109 ships, 4,475 seamen, and 892 boats, with 337 belonging to bye boat-keepers. In 1684, owing to the same cause (the French competition) the British fishery was reduced to 43 fishing-ships, 1,409 seamen, and 294 boats, with 304 boats belonging to resident boat-keepers.—The extraordinary falling off of the fishery at this period is thus explained by the Lords of the Privy Council of Trade in 1718:—

"But this decay of the fishery trade was not the only loss the kingdom sustained on this occasion; for, as Captain Jones, one of the commodores of the convoy in 1682, hath affirmed of his own knowledge, the traders from New England to Newfoundland yearly made voyages for the sake of spiriting away the fishermen, so that the Newfoundland fishery, which was formerly the great nursery for breeding up stout and able mariners, was now become a mere drain that carried off very many of the best and most useful of all the British sailors; and it is too notorious that this practice has prevailed ever since."

"The state of the British fishery from 1699 to 1726 exhibits the same rise and fall, as will appear by the following recapitulation:—

Average of years.	No. of Ships.	Burthen of Ships.	No. of Men.	No. of Passengers.	No. of Boats.
1699, 1700, 1701	192	7,391	4,026	.	1,314
1714, 1715, 1716	161	9,193	2,119	.	982
1719, 1750, 1751	283	35,512	4,103	3,149	1,370
1761-5-6-7-8-9, 1770-1-2-3-4	516	40,691	5,435	6,441	2,163
1781-5-6-7-8-9, 1790-1-2	480	48,950	4,322	4,617	2,258

Average of years.	Quintals of Fish made.	Quintals of Fish carried to market.	Tons of Sealion carried to market.	Tons of Tallow made.	No. of Inhabitants
1699, 1700, 1701	216,320	154,370	.	1,019	3,506
1714, 1715, 1716	97,730	102,363	.	891	3,501
1719, 1750, 1751	432,318	422,116	1,308	2,632	5,855
1761-5-6-7-8-9, 1770-1-2-3-4	626,276	521,296	5,146	2,882	12,340
1781-5-6-7-8-9, 1790-1-2	637,955	622,108	2,974	2,364	15,253

Office of the Committee of Privy Council for Trade, Whitehall, 19th March, 1845.

"The occasional decline of the British fisheries appears to be accounted for by a variety of causes. The true causes—French and American competition, and large bounties—are scarcely noticed. It was confidently stated that it was owing to the resident population not exceeding in those days from five to

ten thousand. A report of the Lords of the Privy Council of Trade states, in 1718, that the indulgence shown to the planters in 1677, by permitting them to remain in the country, rendered the charter ineffectual, reduced the fishery to the lowest ebb, and favoured both the French and New Englanders in carrying on the fishing-trade. The same report, in further accounting for the decline of the British fisheries, attributed it mainly to the neglect in enforcing the 10th article of the charter of Charles I., which ordains—

“That no person shall set up any tavern for selling of wine, beer, &c., to entertain the fishermen, &c.; and it is as certain that the flourishing state of the fishery trade during the aforesaid period was, in a great measure, owing to this wholesome prohibition; for as long as it was maintained, so long the trade prospered, and it was no sooner dispensed with than the trade sensibly declined; and although the planters were afterwards kept in awe for some time by the charters that were granted by King Charles II., which confirmed the same prohibition, nevertheless, when that difficulty was surmounted, and they were at liberty to pursue their own measures, the fishery immediately languished.”

“The true causes of the falling-off of the British fishery may be attributed to the unequal competition with which it had to contend from foreigners, their fisheries on the Newfoundland coast having been invariably supported by large bounties and other encouragements. It can be much more satisfactorily accounted for in that way than to attribute it to the settlement of the island, a resident population, or even to the establishment of taverns and public-houses.”

“A subsequent report of the lords of the committee of the Privy Council of Trade, on the subject of the Newfoundland fishery, dated 17th March, 1786, accounts for it in a much more satisfactory manner when they state—

“The French give a bounty upon fish, the produce of their fishery, imported into their West India islands, of ten *lires* per quintal, and at the same time lay a duty of five *lires* per quintal upon all fish imported into those islands by foreign nations. This bounty and duty taken together is equal to a prohibition of foreign fish; and it is a clear proof that, even in the opinion of their own government, nothing less than an encouragement more than equal to the first cost of their fish, can enable their fishery to have a share of their own markets in the West Indies.

“The French also give a bounty of five *lires* per quintal upon all fish, the produce of their fishery, carried into Spain, Portugal, and Italy. This bounty is also so extravagant as clearly to evince the opinion of the French government of the low state of their fishery. If the legislature here was to give a like bounty upon the fish of your majesty's subjects carried to those markets, it would amount to £120,000 per annum. Such a measure can therefore be calculated merely to introduce their fish into those markets, but can never be intended as a permanent encouragement.”

“Your committee wish particularly to draw attention to those opinions of the lords of the committee of the privy council of trade, to show how mistaken they were in supposing that the French intended their bounties merely as a temporary expedient. It will further appear that they have not only continued them down to the present time, but have extended the fishery thereby to an extent greater than at any former period.

“Your committee having shown that it was large bounties alone enabled the French to carry on the fishery on the coast of Newfoundland down to the period of 1793, have now briefly to remark, that from the war which broke out in that year until the year 1814, with the slight interruption of the peace of Amiens of 1802, the British had full possession of the fisheries, undisturbed by the competition of the French. During that period the fisheries greatly increased and prospered, and the quantity of fish caught ranged from 800,000 to 1,000,000 quintals per annum. It realized high prices in all the foreign markets; the price at Newfoundland advanced to the enormous sum of 15s. sterling per quintal. The estimated value of the exports—the produce of the fisheries of one or two of the last years of the war—were stated to exceed two millions and a-half sterling.

“Your committee have now to draw your attention to the violent and sudden revolution, the rapid and unparalleled decline, in the trade and fisheries, consequent upon the peace, first with France, and then with America. To the French were ceded the islands of St. Pierre and Miquelon, and the shores from Cape Ray to Cape John. To the Americans were soon after granted equally valuable fishing-grounds; and in addition, their respective governments granted enormous bounties to uphold their fisheries, equal almost to the intrinsic value of the fish. It leaves no ground to doubt the cause which brought such universal ruin, at that period, upon the British trade and fisheries. Your committee cannot better point out the cause of the great depression of the fisheries of that period, than by giving an extract from the evidence before the House of Commons in 1817. George Garland, Esq., states to the committee, (Michael Angelo Taylor, Esq., in the chair.)—that

“Another cause of the distress of trade may be found in the surrender by our government, to France, by the late treaty, of a large part of the coast of Newfoundland, which is by far the most valuable part of the whole island for the prosecution of the fishery, and to which, in consequence of the general scarcity of fish about St. John's and in Conception Bay, the inhabitants of those districts, the most populous in the island, were wont annually to resort during the whole of the fishing season, though at the distance of 200 or 300 miles. Since the cession of the French shore, the British fishermen of the said districts, confined to their own coast, have not caught above half the quantity of fish which they formerly did with the same outfit. The merchants urgently requested the government, previous to the peace, to retain this valuable part of the island; and though we do not presume to question the expediency of the sacrifice which has been made of their individual interest for the promotion of national objects, yet I would submit that it strengthens their claims to reasonable relief. And lastly, but by no means least, another cause is to be found in the growing competition of the French and Newfoundland trade, which is fostered by its government with the most anxious solicitude, freed from duties either on its ships or produce, and enormous bounties on its produce, and on the men engaged in the trade, as will appear by a document which I beg to produce.

“*French Bounties on their Newfoundland Fisheries.*—On fish exported from Newfoundland, or from France to the French colonies, 24 francs per pelleted quintal, which is equal to 12 francs or 10s. per English quintal of 112 lbs. On fish exported from

Newfoundland to France, and from thence to Spain, Portugal, Italy, and the Levant ports, 12 francs per metrical quintal, which is equal to 6 francs, or 5s. per English quintal of 112 lbs. On fish exported from Newfoundland to Italy, Spain, and Portugal, direct, 10 francs per metrical quintal, which is equal to 5 francs, or 4s. 2d. per English quintal of 112 lbs. On every kilogramme of oil exported from Newfoundland to France, 10 centimes, which is equal to 75s. per tun, of 256 gallons English. On every kilogramme of cods' roes and eggs, from Newfoundland to France, 20 centimes, which is equal to 8s. 4d. per English quintal or cwt. Besides the above, a bounty of 50 francs, or 41s. 8d. per man is allowed to the French merchants for every man and boy employed in the French shore fishery, and 15 francs, or 12s. 6d. for every man and boy employed in the French bank fishery sailing annually from French ports.

"This competition has already excluded us from the French markets, where, in the year 1815, we disposed of 100,000 quintals fish; it has met us in the markets of Spain and Italy, although in a limited degree, owing to the recent re-establishment of the French fisheries; and it is evident that nothing but the support and assistance of our government, in some way or other, can enable us to maintain the competition much longer with rivals who receive a bounty equal to one-third of the value of the article. I have now completed the exposition of the causes of distress."

"Mr. Attwood said,—'Because it appears that the French are actually prosecuting their fishery with all the enterprise and activity that might be expected from such unlimited encouragement, notwithstanding the French fishery was so very unfortunate last year, that they were only able to supply little more than France and their own colonies with fish—I am told, on the authority of the French consul, that they have despatched more than four times the number of vessels on the fishery this year than they sent out last year. These are the grounds of my opinion, that without support from our government, or the intervention of some great political event, three-fourths of the present Newfoundland trade will go from this country into the hands of France in the space of three years.'

"The result of the representation and evidence adduced before the committee was the following report:—'It appears also to your committee that the trade itself has experienced a serious and alarming depression. The causes from which this has arisen will require, in the opinion of your committee, in the ensuing session of parliament, a much more detailed and accurate investigation; but enough has been shown by the testimony of respectable witnesses, to prove, before the House separates, that the fisheries will be most materially injured, the capitals embarked in them by degrees withdrawn, and the nursery for seamen, hitherto so justly valued, almost entirely lost.'

"Notwithstanding this strong representation on the part of a committee of the British House of Commons, the subject has not since been taken up by the government. No relief or support has been afforded from that period to the present; the British fisheries have been left to languish and contend with the unequal competition; and as it was clearly proved, by the evidence of Mr. Garland and Mr. Attwood, the great and most important portions of the most valuable of the Newfoundland fisheries have fallen into the hands of the French and Americans, and

without any rivalry on the part of the British. The British fishery is now confined to an in-shore fishery, prosecuted in punts and small craft, leaving the deep-sea fishery on the Great Bank, and the other valuable banks and fishing-grounds, altogether in the hands of the French and Americans.

"Your committee have no hesitation in stating, that if the framers of the treaties of 1814 and 1818 had agreed to exclude the British from these great fisheries, they could not more effectually have deprived them of all participation in them.

"Your committee will now briefly remark upon the state of the fisheries from the peace of 1814 down to the present period, having to contend with difficulties already noticed. Thrown altogether upon their own resources, unaided by the parent government, it must appear difficult to account for the preservation, by the British, of even a remnant of the fisheries. According to all mercantile calculation, they should have fallen into the hands of the French and Americans; however, the necessities of the large population which grew up during the period of a prosperous fishery worked for itself auxiliary means of employment. The cultivation of the soil—combining fishing and farming—has enabled them to exist in the country, and thereby to preserve the in-shore fishery, the only portion that now remains to them. They have extended that fishery, and the aggregate quantity of fish caught is equal to that of the amount of the most prosperous years.

"Your committee, in making this admission, contend that it only proves that a trade capable of holding up against difficulties that would have overwhelmed any other in her majesty's wide-extended dominions, is worthy of more attention and consideration from the parent government than has hitherto been extended towards it.

"*British Bank Fishery.*—The Great Bank Fishery suddenly declined after the treaties of 1814 and 1818. In the year 1775 it gave employment to about 400 sail of registered vessels, averaging from 80 to 140 tons burthen, employing from 8,000 to 10,000 fishermen and shoremen. As many as 140 sail was fitted out from the district of St. John's, and the remainder from the various harbours of the island. This important branch of the British fishery was extensively prosecuted during the whole of the French war. No sooner did the French regain the privilege of prosecuting the fishery, than their extensive bounties undermined the British Bank Fishery. Various attempts have been made to participate in it, but every attempt only brought ruin and disappointment on the British merchants or fishermen; the consequence is, at this time, that the great Newfoundland Bank Fishery, so valuable in a commercial, but more particularly in a national point of view, is surrendered without a struggle to the rivals of England, the French and Americans; these powers employing at least 1,000 vessels of considerable burthen, manned with not less than 30,000 seamen; the British not having more than five vessels and 50 men employed in the great deep-sea fishery on the banks of Newfoundland.

"Your committee have to draw your attention to the mode of fishing lately adopted by the French. They have adopted what is called the Bultow system, by which means they extend lines and hooks miles round the ship. For a particular and accurate description of this mode of fishing, your committee have to refer to the statements of Messrs. Mudge and Co. appended to this report. Your committee, in reference to this subject, have reason to believe that the Bultow sys-

tem of fishing is most destructive:—it is a novel mode of fishing not sanctioned by any previous practice or custom. A question may arise, whether it is not a violation of the spirit of the treaty with France. It is a subject that should, without delay, be brought under the consideration of her majesty's government.* Your committee have not sufficient data to give a particular and authentic account of the French and American fisheries prosecuted in the Gulf of St. Lawrence and on the banks and shores of Newfoundland.

“French Fisheries.—It is universally admitted by all those who are acquainted with the subject, that the French occupy by far the best fishing stations. Having possession of the islands of St. Pierre and Miquelon, they can prosecute the fishery to the Grand Bank with the greatest facility. They have also what has been called the Garden of Newfoundland, the line of coast from Cape Ray to Cape John: that portion between Cape John and Straits Belle Isle secures to them the most prolific fishing-grounds; they not only have the advantage of catching a larger quantity of fish, but the climate is found, by the absence of fog, much more suitable for making and curing it, and preparing it for the foreign markets.

“The principal British fishery was carried on in that quarter during the war. To use the words of an intelligent writer on the subject—British fishers are consequently driven to the shores of Labrador, a longer voyage, where the quality of the fish, and the means of drying and curing them, are far inferior. The north-eastern coast of Newfoundland happens to be precisely that which is most exempted from fog; the same winds which envelop other parts of the island in damp and mist, leave this portion clear and dry—a circumstance unknown, or apparently unregarded, by those who, in addition to other concessions of land and water, seem to have given away the light and heat of the sun;—the consequence is, that in the curing of our fish a great part is destroyed by fog and damp, while the French fishermen, in addition to the abundance and quality of their fish, possess and monopolise the still greater advantage of the clearest and sunniest coast.”

“Your committee have reason to believe that this exclusive fishery is a usurpation on the part of the French—that all they are entitled to by treaty is a concurrent right; at the same time it must be admitted that their exclusive claim has, in some degree, been sanctioned by the forbearance and policy of the British government.

“The extent of the French fishery of St. Pierre and Miquelon, and on the other coasts of the islands, may be estimated by a catch of 1,000,000 quintals of fish, employing upwards of 700 sail of large ships, and from 20,000 to 25,000 fishermen and seamen. The French, both of St. Pierre and Miquelon, on the northern part of the island, carry on an illicit trade with the British settlers, particularly in bait, for the supply of their bankers, which is greatly injurious to

British interests, and calculated to destroy the British fisheries on the coast by depriving them of their regular supply of bait. Your committee have to draw particular attention to this point, and have to refer to the evidence appended to this report.

“In making this brief reference to the French fisheries, your committee must observe, that if the British and French fisheries were prosecuted without encouragement in the form of bounties, British industry, notwithstanding the other advantages possessed by the French, would assume its usual superiority; but it is impossible for them to compete with the French, upheld as they are by immense bounties. The object of France is not to create a trade, but to create a navy. It is forcibly said by Mr. McGregor, in his history—In ceding to France the right of fishing on the shores of Newfoundland, from Cape John to Cape Ray, with the islands of St. Pierre and Miquelon, we gave that ambitious nation all the means that her government desires of manning a navy; and if we were determined to lay a train of circumstances which, by their operation, should sap the very vitals of our native strength, we could not more effectually have done so than by granting a full participation of those fisheries to France and America.”

“American Fisheries.—Your committee, in referring to the American fisheries, have also to say that they have no data to ground a correct estimate of them; but they can state that they are very extensive, employing from 1,500 to 2,000 sail of deck vessels, averaging from 40 to 100 tons burthen. The catch of fish in the British waters has been estimated at 1,100,000 quintals, which must give employment to 25,000 fishermen and seamen. The American fishers are observed in great numbers on the Grand Bank, and on the fishing-grounds in the Gulf of St. Lawrence—all along the shores of Nova Scotia, Prince Edward's Island, Newfoundland, and the shores of Labrador. They commence their fishery early in the spring, and follow it up with the greatest assiduity to the latest period of the fall. The American fishery is encouraged by a bounty of twenty shillings per ton, and the supply of their own markets protected by a duty of five shillings per quintal on foreign fish.

“Your committee have to observe, that the great catch of fish by the Americans, supported as it is by bounties and other encouragements, operates, concurrently with the French catch and bounties, to sap the foundation of the British fishery.”

There is no further historical incident requiring record, save that in 1817 the capital, St. John, was again nearly totally destroyed by fire. The following is a list of the governors of Newfoundland, which includes some of the most distinguished names in the British navy:—

from the vessel, and when the lines are all run out straight, sink them to within five feet of the bottom. *The crew having rested all night, they proceed again the next morning at daybreak, to trip the sinker, and while hauling in line, unhooking fish, &c., the men left on board heave in the other end with a winch. When in that manner 100 cod-fish are caught in a night, some are then employed line-clearing, fish-beheading, splitting, salting, and stowing them away in layers across each other below: livers and refuse boiled to oil put in large casks on deck. Three months seems to be the average time employed,—arriving early in June, and departing again in October.”*

* We copy the following account of the operations of the French fishermen on the coast of Newfoundland:—

“The vessels, it appears, mostly anchor in lat. 50° N. and long 59° 20' W. in about 45 fathoms water, veer 90 or 100 fathoms of cable, and prepare to catch cod-fish with two quarter-inch lines of 3,000 fathoms long each. On these a small cork is placed at every 12 feet, and while metal hooks baited with parts of small fish (by us called kiblings) are alternately fastened by snoods of 3 feet long, 6 feet apart, and the whole neatly coiled in half-bushel baskets clear for running out. Half the number of baskets are then placed in a strong-built lug-sail boat on each side; at three o'clock in the afternoon both make sail together at right angles

Governors.	Year.	Governors.	Year.
Capt. Osborne, R.N.	1729	Admiral Campbell	1782
" Clinton, R.N.	"	" Elliot	1786
" Vanbrugh, R.N.	1737	" Millbanke	1789
" Lord G. Graham, R.N.	1740	" King's	1793
" Hon. J. Byng, R.N.	1741	" Sir J. Wallace	1794
" Sir C. Hardy, R.N.	1744	" Waldegrave	1797
" Rodney, R.N.	1749	" Pole	1800
" Drake, R.N.	1750	" Gambier	1802
" Boufoy, R.N.	1753	" Sir E. Gower	1804
" Dorril, R.N.	1755	" Holloway	1807
" Edwards, R.N.	1757	" Sir J. Duckworth	1810
" Webb, R.N.	1760	" Sir J. Keats	1813
" Groves, R.N.	1761	" Pickmore	1816
" Palliser, R.N.	1764	" Sir C. Hamilton	1818
" Hon. J. Byron, R.N.	1769	Capt. Sir T. Cochrane, R.N.	1825
Commodore Molyneux	1772	" Prescott, R.N.	1834
" Duff	1775	Major-General Sir J. Harvey	1841
Admiral Montague	1776	Hon. F. W. A. Bruce	1846
" Edwards	1779	Lieutenant-Colonel Sir J. G. Le Marchant	1847

CHAPTER II.

TOPOGRAPHY, GEOLOGY, MINERALOGY, SOIL, AND CLIMATE. VEGETABLE AND ANIMAL KINGDOMS.

NEWFOUNDLAND stands on an immense bank, in length about 600 miles, and in breadth about 200 miles, with soundings varying from 25 to 95 fathoms; the base being a mass of solid rock. There are apparently two banks, the outer one lying within $44^{\circ} 10'$ and $47^{\circ} 30'$ N. lat., and within $44^{\circ} 15'$ and $45^{\circ} 25'$ W. long., with soundings varying from 100 to 150 fathoms. Newfoundland is in form, nearly an equi-lateral triangle, the apex being to the northward and the base extending east and west, between Cape Ray and Cape Race. The coast is every where indented, at intervals of two or three miles, by broad and deep bays, innumerable harbours, coves, creeks, and rivers. The shores are all rocky, with pebble beaches, often covered with stunted wood nearly to the water's edge; with lofty headlands on the south-west side. The interior of the island remained unexplored until 1823, when Mr. Cormack, accompanied by some Indians, succeeded in traversing the island from east to west, viz. from Trinity Bay to St. George's Bay. From his account, the interior would appear to be rocky, with numerous tracts of moss; much intersected by rivers and lakes, and but thinly wooded, except on the banks of the rivers, where poplars, birches, and spruce firs grow. The

British settlements are almost entirely confined to the coast line; the best manner of conveying an idea of their relative positions, and of the country generally, or at least of the limited portion with which we are acquainted will therefore be by passing regularly round, examining by the way the chief bays, harbours, &c., commencing with the large peninsula, named Avalon, which constitutes the south-eastern portion of the island, and on which St. John's, the capital, is situated. The deep bays of Trinity and Placentia, form the peninsula, and are separated only by an isthmus about three miles broad. Two other considerable bays, those of St. Mary and Conception, run parallel with these, and dividing the peninsula into three lesser ones, give Avalon a very unusual proportion of water frontage, which from its proximity to the Great Bank, is of great value, and adds materially to the importance attached to it, from its situation with regard to Europe.

St. John is situated on the open eastern coast, in $47^{\circ} 33' 33''$ N. lat., and $52^{\circ} 45' 10''$ W. long. The harbour is spacious and secure, every where excepting towards its termination of great depth, having upwards of 90 feet in the centre, and land-locked by high hills, which on its south side afford no

shore, and on its north admit a strand, built over with warehouses and wharfs. The remarkable entrance, called the Narrows, is thus described by Sir R. Bonnycastle:—"The ship, passing the open roadstead, or one-sided Bay of St. John's, scarcely sees the extremely narrow pass in the high land which she must make, and on entering the Narrows, she has nearly half a mile of intricate navigation before she opens the whole harbour. On entering she has on her right hand, a precipice of sandstone and slate rock, nearly perpendicular, to the height of 300 feet, above which almost as steep, frowns the citadel called Signal Hill, a very narrow crest, 510 feet above the ocean waters. The Narrows themselves are only 900 feet across their sea-face, and diminish to about 400; so that from the deck, in passing, one looks up to the batteries upon batteries frowning in the sky, or on the edge of perpendicular cliffs. On the left the mountain is above 600 feet in altitude, broken, abrupt, and very picturesque, admitting however, near the water, a sort of shoulder of small elevation, bristled with dangerous rocks, and shewing again batteries near the water's edge, with a jutting promontory of solid rock, on which there is a formidable work with the harbour-light perched on the top of a vaulted barrack. After she has passed two-thirds of the Narrows, the town begins to open. In front is old Fort-William; on her right here, a strong water-level battery; and immediately over her, Waldegrave's battery, half-way down the precipice, with the Crow's Nest, a beautiful cone, capping all." In war time a chain is thrown from here to the Pameake Rock (a dangerous shelf on the opposite side), to prevent the admission of any hostile vessel. "The harbour then opens by a turn at right angles to the westward, and the whole city appears climbing up the side of a hill."

From the above graphic account, it will be readily understood that St. John's is a place of considerable strength, both from its natural position, and the fortifications erected for its protection. The streets are long and straggling; Queen-street, the principal one, has good stone houses, and is from 30 to 40 feet broad. Fort Townsend, the former residence of the governor, stands in the rear of the town. The new government-house is on a scale very disproportionate to the income attached to the government; the position also appears ill-chosen, being bleak and

much exposed, for which the noble view it commands can hardly compensate. The first estimate for its erection was £9,000; it was said to have cost nearly £250,000, but Sir R. Bonnycastle, on the authority of the officer through whom the payments were made, states the ultimate expenditure at much less than £35,000, including the furniture. The chief public buildings are St. John's church—a fine stone cathedral in course of erection by the Roman catholics—the factory, to which the poor resort in winter to knit stockings, make nets, &c., and which contains a large and handsome public ball-room, an hospital, Wesleyan and congregational chapels, public schools, the old wooden court-house, with the jail, and some others. The town has been of late years much altered; indeed the calamitous fires mentioned in the foregoing chapter, by destroying great numbers of wretched wooden tenements made way for houses of a much better class. Sir Gaspard le Marchant, the present governor of Newfoundland, in a despatch dated 23rd May, 1818, thus adverts to the condition of the capital:—

"During the past year, great exertions have been made by the inhabitants of the town of St. John's to repair their losses, occasioned by the fire of the 9th June of the preceding year. New lines of streets have been laid out on an improved plan, both as to width and regularity, and intersected at suitable distances with cross streets or fire-breaks. In several quarters of the town new buildings have been commenced, and the works carried on with great spirit and energy.

"In the lower street, Water-street, on the side commanding the frontage of the harbour, many handsome shops and substantial warehouses of stone and brick have been erected, at very considerable expense, by the merchants, and this part of the town wears an improved appearance. Very many of these have been erected at a cost varying from £4,000 to £8,000, and the ground rental of the premises lining this frontage averages £3 a square foot. The Act, however, rendering it compulsory that all buildings in this street, as well as the south side of the street lying immediately above it in a parallel line, called Duckworth-street, should be either of brick or stone, does not come into operation till the next year; and it is much to be feared that, at the meeting of the local legislature, many and strenuous attempts will be made, and those successfully, for a further postponement of this most desirable measure; for, until this has been effected, in consequence of the contiguity of so many wooden buildings, serving only temporary purposes, the danger of a fire again spreading its ravages throughout the city, though to a certain degree lessened, will not be removed.

"The public buildings now in the course of erection are the custom-house, which will be completed in the spring, the colonial building, to be appropriated for the meetings of the local legislature, and the Protestant cathedral, towards which half the amount raised under the authority of the queen's

better for the relief of the sufferers by the fire has been appropriated. A site has been fixed on for a market-house, and a sum of money voted for its erection, but, owing to the embarrassed condition of the finances of the colony, as yet no progress has been made with the work.

"In the past year I have, out of the funds at the disposal of the government, formed two large tanks in the centre of the town, affording at all times a copious supply of pure and excellent water, and likewise, being frost proof, of the greatest utility in the event of accidents by fire occurring in their neighbourhood. At one of the chief outlets of the town, commanding the frontage of the river, and forming the upper part of the harbour, a public walk, affording a place of recreation to all classes, as well as contributing to the health of the inhabitants, has been commenced, and in the course of the ensuing season will be completed.

"The crowded state of the burial-grounds in this town has likewise occupied my most serious attention; and for the purpose of abating, if not entirely removing, this evil, so loudly complained of by the inhabitants generally, I have purchased a piece of ground without the town, of nine acres in extent, and intend dividing and appropriating it as a cemetery for parties of all religious denominations, in proportion to the number composing the several creeds, and shall use my best endeavours for the closing of those within the town. Two companies, the one for supplying the town with gas, the other for the supply of water, have been incorporated by acts of the local legislature, the former in the year 1844, whose works are completed and in full operation; the latter in the year 1846, whose pipes are now being laid down, and it is presumed the town will have the benefit of the undertaking in the course of the spring.

"As no assessments are in force for any local or fiscal purposes, it is impossible to form any accurate estimate of the value of either household or other property in this town; the rental, however, of Water and Dickworth Streets has been by competent judges computed at between £35,000 and £10,000 a-year. The accompanying return, marked No. 2, will more accurately show the classification of the population of this town, the number of their houses, warehouses, &c., as well as the foreign vessels trading at this port, and the extent to which the fisheries are prosecuted by the capital of the island."

A considerable portion of land in the neighbourhood of St. John's has been brought under cultivation, and though it doubtless requires much toil and expense to render it productive, and is certainly inferior to other districts, yet the capabilities of the soil here, as well as elsewhere, have been greatly underrated. In Captain Loch's Report of the Fisheries, dated October, 1848, he says, "St. John's has enjoyed a more productive season than for many years past, which, with the cheering prospect of abundant crops in grass, grain, and potatoes, has given new vigour and life to the capital after the fire and famine of the last and preceding years. Cape Spear, about eight miles from St. John's harbour, is the most

eastern point of Newfoundland. It has on it a light-house, and is in $17^{\circ} 30' 12''$ N. lat., and $52^{\circ} 33' 27''$ W. long. Petty Harbour is a small and secluded station picturesquely situated; more to the south is the Bay of Bulls, which extends two miles into the land. The harbour is difficult of access on account of a sunken rock; but once in, vessels may ride in safety. The settlement is prosperous, near it are those of Witless Bay, Monables, and Briggs Bay, the last being of some importance. Cape Broyle is a good harbour, but of difficult entrance; its south point is in $47^{\circ} 2' 12''$ N. lat., and $52^{\circ} 55' 12''$ W. long. Capelin Bay is an excellent harbour, a little to the south of it is that on which stands Ferryland, the first permanent settlement. Mr. McGregor states, "that a considerable extent of the surrounding land is under cultivation," while Mr. Chappell describes the vicinity as rocky and destitute of any trace of cultivation. On the harbours of Aquaforte, Fermoise, and Renowes, are villages of the same names. We now arrive at Cape Race, the south-east point of the island, in $46^{\circ} 40' 12''$ N. lat., and $53^{\circ} 8' 12''$ W. long.; further to the south-west are two capes, each called Mistaken Point, on account of their being frequently mistaken for Cape Race in approaching the land from the southward. The Virgin or Cape Race rocks, so much dreaded by mariners on this coast, are stated by Mr. Jones, master of H.M.S. *Hussar*, to be in $46^{\circ} 26' 15''$ N. lat., and $52^{\circ} 56' 35''$ W. long.; they extend in an irregular cluster, the length being about 800 yards; the breadth varying from 200 to 300 yards, the least water being four fathoms and a half.

Trepassey Bay, is a spacious inlet with a good harbour on its eastern shores, on which is a settlement of some importance. Trepassey Bay contains the smaller bays of Biscay and Mutton; passing Cape Pine and St. Shotts (the most dangerous portion of the coast), we arrive at St. Mary's Bay, which is well settled, and has several extensive cod-fishing establishments and salmon rivers, and is separated by a tract of only ten miles from the head of Conception Bay, and of eight from that of Trinity. The next bay is that of Placentia, which is about 60 miles deep and 15 broad. The entrance lies between Cape St. Mary and Cape Chapeau Rouge, with several rugged islands near its head. The port and town of Placentia lie on the eastern side; and the chief harbour, which can only be entered by one ship at a

time, affords anchorage for 150. North Harbour is situated at the upper extremity of Placentia Bay, the western side of which is well populated, and contains many harbours, the principal of which are Marasheen island, Ragged island, and Mortier and Burin Bay. The eastern portion of the neck of land between the bays of Placentia and Fortune, is called Burin. From the head of Placentia Bay to Trinity Bay, there is a low isthmus, not more than three miles in length, across which the fishermen, during the time the French had possession, hauled their skiffs over ways laid for the purpose; it is this isthmus which connects the peninsula of Avalon with the main body of the island. The French paid much attention to their settlement on the east side of Placentia Bay, which they strongly fortified with the hope of driving the English entirely from the fisheries of Newfoundland.

May Point terminates the peninsula which separates Placentia Bay from Fortune Bay. From May Point to Cape La Hune is 17 leagues, and in this place lies Fortune Bay (60 to 70 miles deep, and 20 to 30 broad), which receives several rivers flowing from the inland lakes, and contains numerous harbours and stations. The villages of Fortune, Great Beach, and Lamelin, lie opposite the French islands of Miquelon and St. Pierre. Mr. Jukes speaks of two men in Lamelin who had "fifty head of cattle a piece," which they fed on the grass growing on the adjacent marshes. The islands of Great and Little Miquelon (the lesser of which is called Langley by the English), were, some 60 or 70 years ago, divided by a channel of two fathoms depth, which is now entirely filled up, and its place occupied by a long narrow line of sand hills, with a beach on each side. Mr. Jukes describes the scenery as very striking, the high land of Langley sloping down towards the west, covered with rich green moss, into a dense mass of wood, and speaks also "of extensive meadows, where enough sheep and cows are fed to supply St. Pierre and the neighbouring population;" he adds, "they have very strict regulations in the port: no English boats or vessels are allowed to come in having fish on board, on penalty of being seized, and no Englishman is allowed to bring English goods and manufactures, or to set up a shop in the town. There is, however, an American warehouse belonging to Atherton and Thorne, which seemed to be doing a large business." St. Pierre, Mr.

Jukes describes as a mass of rocky hummocks, the hills rising to a height of 100 or 500 feet, directly from the water, the hollows and flatter parts consisting of marshes and ponds. To the north of St. Pierre is a lofty islet called Colombier (dove-cote), from the multitude of puffins which breed there, and are continually flying about in large flocks. To return to Fortune Bay,—at Harbour Britain there is a large mercantile establishment; Hermitage Bay is being rapidly settled, and the Burgeo islands had in 1812, 650 inhabitants. The salmon fishery on this coast is extensive; and the neighbourhood is the scene of the Newfoundland whaling. At Little Barrys Bay, according to Sir R. Bonnycastle, 100 Mic-Mac Indians trade in salmon, geese, and furs. Proceeding westward we reach Port-aux-Basque, and passing Grand Bay, arrive at Cape Ray, the western extremity of the island, in $47^{\circ} 36' 19''$ N. lat., and $59^{\circ} 21'$ W. long. From this Cape to the Great Bay of Notre Dame, the French claim the exclusive control of the coast, that is, of all the western, northern, and north-eastern shores of this the oldest British colony. To quote once again the words of Sir R. Bonnycastle (and it would be difficult to find a better authority on the affairs of Newfoundland,) "notwithstanding all their treaties, their resident population amounts, it is said, to upwards of 12,000, and as they are nearly all engaged in a most lucrative fishery, they receive every encouragement from their government, are registered as seamen, and, in fact, constitute to France what Newfoundland was before the last war to England, the nursery for her seamen."

Captain Granville Loch, R.N., thus describes the condition of the British settlement at St. George's Bay, in an official report, under date 2nd October, 1848:—

"There are 200 resident planters in this bay who receive assistance in hands, during the fishing season, from Cape Breton and its adjacent shores. Their fishing usually commences a month or six weeks earlier than that on the coast of Labrador. This year they began the 27th April. They fish herring, salmon, trout, and eels, besides the cod. Up to the present date (17th August), their catch has been 10,000 barrels of herrings, 200 barrels of salmon, and but a small quantity of cod. They employ about 200 boats and 800 hands, and send their fish to the Halifax and Quebec markets during the summer and fall. The fishings end about the 1st of October, with the exception of the eels, which are caught in great quantities, and afford subsistence during the winter. They have bait without intermission during the entire fishing, and use herring, caplin, squid, and clams. The climate is usually dry and mild; and if their society was under proper control, St. George's Bay

would offer many inducements to the industrious settler. The harbour is occasionally blocked up by ice, but for no length of time, and is always open by the middle of April. The inhabitants consist of English, a few Irish, and a number of lawless adventurers, the very outcasts of society from Cape Breton and Canada, and it is very distressing to perceive a community, comprising nearly 1,000 inhabitants, settled in an English colony, under no law or restraint, and having no one to control them, if we except what may be exercised through the influence shown by the single clergyman of the Established Church, who is the only person of authority in the settlement. I am told, the reason why magistrates are not appointed is in obedience to direct orders from the Home Government, it being believed against the spirit of the treaty with France. Under these circumstances, I would recommend, either that a vessel of war should be appointed to remain stationary in the harbour, or that the society should be forcibly broken up and removed, for violent and lawless characters are rapidly increasing, and neither the lives nor property of any substantial or well-disposed settlers are safe. Four cases of violent assault were brought to my notice as having recently been committed upon parties, some of whom were injured for life, and others nearly murdered; and I am sorry to understand the culprits had succeeded in escaping into the woods upon the appearance of her majesty's ship.

The cultivation of grain has been commenced with considerable success. Wheat, oats, and barley ripen well, and turnips grow exceedingly fine. Potatoes and garden-stuff are cultivated also to a considerable extent. A great quantity of fur is collected; but the rappers suffer great losses by the frequent robbery of both traps and their contents."

Mr. Jukes describes the country south of St. George's Bay as gently undulating, with a fine short turf, and more like some parts of England than any he had seen in Newfoundland. He landed on 11th September, 1839, at the mouth of a brook near Crab's river, on a very pretty spot, with green meadows on each side of the brook, and a few neat houses clustered under the shelter of a rising bank, covered with green turf. Geese were feeding on the grass; ducks and poultry were scattered about; and a few cows and some sheep, gave it all the appearance of a pastoral scene at home. There was actually a fence and a stile to get over into a small field, with a footpath across it. The patriarch of the settlement, Mr. Morris, came and invited Mr. Jukes to sit down to breakfast with them, when he found plenty of fresh milk, eggs, and butter, hot rolls, excellent tea, and a snow-white table-cloth. It really seemed to the geologist a little paradise. From the rising ground behind the house the view was very beautiful. A tract of low undulating land, covered with a rich sea of wood, stretched away into the interior for 15 or 20 miles, and was backed by a range of blue hills in the horizon that

rose towards the S.W., while towards the N.E. they gradually died away, and coalesced with the hills at the head of the bay. The wood was not of the sombre hue so generally seen in Newfoundland, but was patched with the light green of the birch, and what the colonists term the *wych hazel*, the *barn*, and the *aps*, and probably the ash was present. Finally, says Mr. Jukes, the little rich-looking valley of the brook, with its bright waters winding away into the woods, completed a most lovely and most English picture. Mr. Morris and his son-in-law, Stephen Shears, arrived in Newfoundland without a shilling: they have now fields of wheat, cows, oxen, sheep, good habitations, and every comfort. The climate, by their account, is very fine during the summer; snow, they say, generally sets in about three weeks before Christmas, and breaks up in the beginning of April.

There are some Mic-Mac Indians in this fine bay, into which several rivers, emerging from the lakes in the interior, empty themselves, and on the N.W. lies the magnificent double harbour of Port-au-Port, divided from it only by a narrow isthmus, from which point the most successful attempts have been made to explore the interior of the country, which is reported to be mountainous, abounding in rivers, extensive lakes (or ponds, as they are called in Newfoundland), and grassy plains. The Bay of Islands stretches out three arms into the land, one of which forms the embouchure of the Humber, the most considerable river yet known, its course having been traced for 114 miles to the north-westward, where it issues from a cape of about ten leagues in length. On this bay there are British settlers, a great timber station, and in it, as its name imports, are many islands—Pearl, Harbour, Tweed, &c. Bonne Bay has a good harbour, but of difficult entrance. Ingornachois Bay contains three harbours, the chief of which is Port Saunders, a spacious inlet, so land-locked, that 90 or 100 vessels may lie perfectly secure from every wind; yet, owing to the absence of cod, it is uninhabited. To the north, round Point Riche, is St. John's Bay, which receives the waters of Castor river. Beyond Point Ferrolle, the northern boundary of St. John's Bay, are a few inconsiderable inlets along the straits of Belleisle, which separate Newfoundland from the adjoining coast of Labrador, and are in length about 50 miles by 12 broad.

Cape Norman, 20 leagues beyond Point

Ferrole, is the N.W. point of Newfoundland, and has on its E. side a large bay, called Pistolet Bay, bounded by Burnt Cape. Belleisle North, an island at the head of the strait, has an excellent cod fishery, claimed by the French. We next come to Quirpon Island and harbour, the northern point of Newfoundland, in $51^{\circ} 39' 15''$ N. lat., and $55^{\circ} 27' 50''$ W. long.; thence to Griquet Bay and St. Anthony's Harbour. Hare Bay is a deep gulf, the bottom of which intersects the island for two-thirds of its breadth at this point, branching off into innumerable bays and coves, sheltered by lofty hills. From this harbour to White Bay, and thence to Cape St. John, the coast is indented at short distances by commodious and much-frequented harbours.

Pacquet Harbour has an excellent fishery. After passing Cape St. John, the limit of the French claim, we enter the bay of Notre Dame, whose shores are broken by innumerable smaller inlets. Nipper Harbour is well inhabited in summer; but, in winter, the people either go to St. John's, or retire to the woods. In Hall's Bay some trappers and hunters live, who cross to the Gulf of St. Lawrence in their hunting excursions.

The Bay of Exploits, which is of great extent, contains a number of islands, and several settlements, especially on Twillingate and Fogo islands. A large river of the same name falls into it, abounding in salmon, and flowing from Red Indian Lake, a course of about sixty miles, much broken by rapids. Gander Bay on Hamilton Sound has some thriving fishing establishments. From Cape St. John to Cape Freels the whole coast presents a continuation of ledges, shallows, islands, rocks, and winding bays, which afford excellent fishing grounds. To the south of Cape Freels is the Island of Greenspond, which is situated at the north-eastern extremity of Bonavista Bay, and has some extensive mercantile establishments. This noble bay is diversified by numerous islands, and contains many safe havens. It has several good fishing stations, the chief place being Bonavista at its eastern extremity. The next harbour is that of Catalina, where Jacques Cartier landed. It is situated in $48^{\circ} 42'$ N. lat., $52^{\circ} 59' 20''$ W. long., and stands almost at the head of the small peninsula between the great bays of Bonavista and Trinity. Trinity Bay has many settlements and harbours, the most important are those of Trinity town and harbour, besides which there are those of

Bonaventure, Ireland's Eye, Random Sound, Islands and Bay of Bulls, *Tickle* Harbour (a word often used in the Newfoundland charts, signifying a small safe harbour), Dildo Harbour, Heart's Delight, Heart's Desire, Heart's Content, New Perlican and Old Perlican Harbour, formerly a place of some note, which having passed we arrive at Break-heart Point, near which on the south-east is an insulated rock called Baccalao, said to have been first seen by Cabot in 1497, and called by him *Prima Vista*. The numerous birds on this island are called by its name. In a former work I stated them to be preserved by the governor's proclamation, because their cries being heard far at sea served as a warning to mariners during the frequent fogs; but Sir R. Bonnycastle, to whose authority I very willingly defer, says that I have been misinformed, the reason for their preservation being because they are sea marks for the banks and coast. To the south-east of the island the deep and spacious inlet of Conception Bay stretches into the land for a considerable distance, being about 50 miles long and 20 broad. The west shore is the best cultivated portion of Newfoundland, and the numerous, neat-looking villages render it an English-looking coast. There are several towns of rising importance. Carbonier, or Collier's Harbour is one of the chief, and is famous for the spirited defences made by its inhabitants against the French. The harbour, though spacious, is not considered at all seasons secure; there are several settlements, such as Brigus, Port de Grave, Bay of Roberts, Harbour Main, Spaniard's Bay; in fact the whole shore from Point de Grates to Holyrood, a considerable station at the bottom of the bay, is studded with villages placed in the deep inlets separated by lofty perpendicular rocks, which run out into the sea for two or three leagues, though they are not a mile in breadth. The scenery on this part of the coast is majestic and wild.

Near Port de Grave there is a remarkable basin hollowed out in the cliffs by the action of frost, or the more certain operation of time, in decaying the slate clay, of which the rocks are composed. First a circle is entered, 20 feet wide by 20 high: and beyond is the basin itself, which is about 300 feet in circumference, and surrounded by perpendicular rocks 120 feet in height, with a border of dwarf spruce at top. At one corner a little exit, among broken masses of rock, carries off the superfluous water; the

depth near the centre of the cavity is about 14 feet. Captain Robinson states Harbour Grace to be a good port, and although the space between the end of the bar and the north shore is rather narrow, a large ship, well handled, may beat through or back, and fill in and out with the tide. Approaching the town from the northward you pass a large house surrounded by some considerable trees, which has an English appearance; as has also the little town, with its parsonage in the centre of a pretty garden, and weather-beaten church, bearing an antique, un-Newfoundlandish air.

On the eastern side of Conception Bay there are several islands, amongst which is Bell Isle (six miles long), so called from the shape of a remarkable rock close to its western side. This island is distant from Harbour Grace about twelve, and from Portugal Cove about four miles; and the soil, consisting of a loose deep black earth, is so extremely fertile as seldom to require manure, while wheat yields twentyfold, potatoes fifteen, and oats, hay, and vegetables thrive remarkably well. Portugal Cove is the only settlement of any consequence on the east side, but unlike most other positions it has no safe harbour, and only an open roadstead, rendered dangerous for the fishing craft in bad weather.

The scenery about Portugal Cove is described as strikingly picturesque, a succession of lofty hills on each side tower over the road, and shut out every other object; their conical or mamillated peaks are covered with wild stunted forest and bold masses of rock, intersected by cascades or tiny waterfalls. The scenery of the village at Portugal Cove is very beautiful, although the shore is a succession of ragged and broken rocks.

Cape St. Francis, the E. boundary of Conception Bay, is distant seven leagues from St. John's Harbour; four leagues lower is Torbay, a fishing station; and three leagues further is St. John's.

Having now completed the circle of the island, it remains only to observe that there is much fine scenery in Newfoundland, many fertile spots even on the coast, and that British industry, economy, and skill have already laid the foundation of many towns and villages, which, from their position, will probably before long attain considerable importance.

THE LABRADOR REGION is little known; it is thus described by Captain G. Loch in his recent report:—

"This extensive coast, commencing from the estuary of the St. Lawrence, and stretching far north to the regions of perpetual snow, is one of the most barren and desolate in the world; and it seems that nature has removed the means of supporting human life from its surface to the waters which surround it, the abundant productions of which offer the inducement, and reward the industry and perseverance of the thousands of adventurers who resort to it from both Europe and America. The portion forming the northern boundary of the straits of Belleisle is not so well marked or grand in feature as when it recedes from the island of Newfoundland, either to the north or south. From the sea, the country has a green and alluvial appearance, and it is not until close to it that this is lost, and nothing is seen but bare granite rocks, partially covered with moss and stunted shrubs; juniper, birch, and poplar trees grow in the valleys, where the soil is of sandy clay, the temperature much higher, and the fogs less frequent than upon the coast. Here deer, bears, wolves, foxes, martins, otters, beavers, and a great variety of wild fowl take up their abode, until driven to the coast by the snow-drifts of approaching winter. The ice does not usually leave the bays free for vessels to enter before June, and it begins to form again in the shallow bays and pools in the beginning of September.

"The entrance of the Strait of Belleisle between York Point and Cape Bauld is 26 miles wide, the latter point bearing from the former S. by E. At Cape Norman, 18 miles to the westward of Cape Bauld, the opposite coast of Labrador is distant only 14 miles, but the narrowest part of the strait is at Point Amour, in Forteau Bay, where it is only nine and-a-quarter miles wide; the western entrance of the strait, between Greenly Island and Point Ferroll, is nearly 21 miles wide, the point bearing from the island S.S.W. The course and distance through the strait is S. 54° W. true, or, according to the mean variation, W. $\frac{1}{2}$ S. 65 miles.

"The navigation of this strait is attended with very considerable danger, from sudden fogs, wandering icebergs, and strong irregular currents. In spring, the entrance of the strait to the northward is frequently almost blocked up by large ice islands, which are set to the S.W., even against strong winds from that quarter; these are broken up into smaller pieces as the summer advances, and are met with throughout the entire season. It is thus apparent, that the dangers of the coast are greatly increased in dark or foggy nights, during which no vessel should attempt to run, for it is impossible, under these circumstances, even with the most careful watching, to guard against unknown dangers, or to be sure of the vessel's position within ten miles, owing to the frequent irregularity in the set of the currents. The prevailing current runs directly through the strait to the S.W., and its rate is at times two knots, diminishing gradually in force as it spreads out in the wider parts of the gulf; but yet its course and velocity is greatly influenced by the prevailing winds; for example, with the wind from S.W. the stream sets along the west coast of Newfoundland, from Point Ferroll past Point Riche. In short, there is no constancy either in the rate or set of these streams, for the winds and the irregular tides modify the set and rate of the equally irregular current, in a manner which it is extremely difficult, if not impossible, to calculate upon with any degree of certainty. It would be prudent, therefore, on the approach of a dark or foggy night, to secure a safe anchorage, if possible; and

even if a vessel bound to the gulf, and running with an easterly wind, should find no port fit for that purpose, I would advise her standing over to the Newfoundland side of the strait, where the soundings are not so deep, and the icebergs not so prevalent, and then either lying to until daylight, or anchoring in the stream."

Mountains and Hills.—On the gulf shore of Newfoundland, distinct ranges of mountains extend from Cape Ray, where they commence with three sugar-loaf hills, and then proceed continuously in a N.E. and W. direction. These ranges, says Sir R. Bonnyycastle, stretch very far up the west coast, and with occasional lofty off-shoots which reach the sea, are usually so distant from it as to leave a belt of comparatively level country, of considerable width, through which the small river drainage passes. The elevations have a steep face towards the N.W., and are rather flat and regular at the summit. One conspicuous hill bears true N.E. from St. George's harbour, distant 20 miles in a straight line. The "Blow-meadown hills," on the south side of the Humber river, have their least elevation at 800 feet. Beyond the coast ranges to the eastward and northward the country is covered with rivers and lakes, of great extent, and is of course well drained by them in a vast area, reaching almost to the Atlantic cliffs on the east coast.

In Avalon district or province, there are two ranges of hills, one from the back of Renew's to Holyrood, in Conception Bay, extending for 20 miles in length, not lofty, but with precipitous and rugged outlines, the heights or hummocks called the "Butter pots" at either end are about 1,000 feet, and there are other eminences of nearly equal altitude in other parts of the range. The other ridge passes from Cape Dog, in St. Mary's Bay, to near Chapel Arm in Trinity Bay; it is less broken and rugged than the former mentioned, has a more continuous outline, and its highest elevations of 1,200 to 1,500 feet, are for the most part rounded or flat topped. The Sawyer's Hills (so called from their outline), south of Placentia Bay, is a subordinate ridge, as is also some high rough land forming the isthmus connecting Avalon with the main part of the island, and the elevations about St. John's, viz. Signal Hill 520 feet, South-side Hill 700 feet, and Branscombe Hill 870 feet above the sea.

A mountainous country in miniature (none of the hills exceeding 1,000 feet), extends along the west shores of Placentia Bay and the adjacent islands, from Chapeau

Rouge to Piper's Note. This range of lofty, broken, and precipitous land, runs along the west side of Trinity Bay to Trinity harbour, and thence crosses into Bonavista Bay about Keel's Head. Mr. Jukes states that it has an irregular width of several miles, occupies the east half of the peninsula between Fortune and Placentia Bays, and forms a fine peaked and serrated mass of hills some miles west of Random Sound in Trinity Bay, which stretches also to the neighbourhood of Goose Bay in Bonavista Bay. One isolated peak upwards of 1,000 feet above the sea, named Sauter's Hill, or Centre Hill, or Powderhorn Hill, overlooks nearly the whole of the Bays of Placentia and Trinity, as well as some of the high grounds about Conception, Bonavista, and Fortune Bays. The west side of Bonavista Bay from Clode Sound, northwards, is low, but as far as Mr. Jukes could judge of the interior, the country towards the N.W. consists of regularly undulating ridges, running generally N.N.E. and S.S.W., never rising more than 300 or 400 feet, and covered with dense wood.

The "Blue Hills" run about N.N.E. and S.S.W., in a line with the promontory between Gander Bay and Dildo Run, and are not supposed to exceed 1,000 feet in height. Another range of 1,000 to 1,500 feet in elevation, are seen from the mouth of the river of Exploits, closing the view up the valley of the lower part of the river: they are flat-topped with precipitous sides, which gives them a square appearance. A ridge of high land runs from them towards the S.S.W.

The southern portion of Newfoundland has very lofty cliffs, and the high land contiguous to the sea, excludes all view of the interior from the sea. The country is said to be grooved in every direction by small valleys and ravines, covered with round hummocky knobs and hills, with rocky and precipitous sides.

The summits of the hills and ridges and other elevated and exposed tracts termed "barrens" are covered with a thin and scrubby vegetation, and are somewhat similar in appearance to the moorlands of Yorkshire; they are frequently devoid of vegetable soil, and consist of bare patches of gravel, boulders, and crumbling fragments of rocks. In the hollows of these barrens, as in other situations, the dwarf junipers, called in Newfoundland "tucking bushes," grow about breast high, with strong branches at right angles to the stem, and stiffly interlacing; their flat tops are as level as if they had

been regularly clipped. They are so stiff that it is almost possible to walk on the summits of a dwarf juniper tract, but to penetrate far through the bushes is impracticable; and this is one of the obstacles towards the exploration of the interior.

Lakes.—Newfoundland is covered with lakes and lakelets (called ponds). They are found all over the face of the country, not only in the valleys, but on the higher lands, and even in the hollows of the summits of the ridges, and on the very tops of the hills. They vary in size, from pools of 50 yards in diameter, to lakes of 30 miles long by 5 broad. From the top of the N.E. mountains in Avalon, 67 ponds were counted, some of them 2 or 3 miles across; none less than 100 yards, and none more than 10 miles from the base of the hill. The principal are the Grand Pond, Red Indian, Gander Pond, George the Fourth's, Jameson, Wilmot, and Bathurst lakes. There is also a large unexplored lake on the E. part of the island, near Bonavista Bay.

Grand Pond is 50 to 60 miles long, five miles broad at the widest part, viz., to the N.E., and has, at its western extremity, an island 20 miles long by 4 or 5 wide, which causes the lake to divide into two arms. The island is steep and lofty, like the surrounding country, at the S.W. end, but is lower to the N.E. The Indians say, that by means of a chain of ponds, they can navigate to the Great Lake from St. George's harbour.

Red Indian Lake is said by the Indians to be about 30 miles due E. from Grand Pond, and is about 30 miles long by 5 to 6 broad.

Victoria Lake is about the same length as the preceding, but not so wide. This lake has a water communication with Bathurst, Wilmot, and George the Fourth lakes; but we know too little of their extent, or of the surrounding country, to say more on the subject.

GEOLOGY.—A considerable part of the coast line of Newfoundland was examined by Mr. J. B. Jukes, as geological surveyor to the local government in 1839–40. The aqueous or stratified rocks consist of the following formations:—

Formations.	Subdivisions.
1. Coal	{ * Upper portion. * Lower or red ditto.
2. Magnesian limestone.	
{ Upper slate formation	{ Bellefleur shale and gritstone.
	{ Variegated slates.
{ Lower slate ditto	{ Signal hill sandstones.
	{ St. John's slate.
3. Gneiss and mica slate.	

The unstratified or igneous rocks consist of various kinds of trap, greenstone, serpentine, hypersthene, porphyry, sienite, and granite.

The upper part of the *coal formation* consists principally of dark shales, with brown and yellow sandstones or gritstones in thin beds. The lower part is characterized by beds of red sandstone, red and green marls, and gypsum. The two parts pass by insensible gradations into each other. Yellow, brown, and whitish flags and sand stones, dark blue clay, and an occasional bed of black shale occur throughout the formation. Some of the lighter coloured sandstones contain carbonate of lime and the red and green marl, and large masses of gypsum, in thick beds. The total thickness of the coal formation is considerable, the portion examined by Mr. Jukes had a depth of 1,000 to 1,500 feet. The *magnesian limestone* seen, was generally of a yellow colour, about 50 feet thick, in beds of two to three feet each, frequently splitting into flags. One bed of carbonate of lime was found of a grey colour, two feet thick, with a band of brown chert. The magnesian limestone seen by Mr. Jukes had generally a yellow colour, but rudely spheroidal concentric stripes of pink frequently occurred. These, whichever direction the rock was split, produced markings similar to those seen in fortification agate, but on a much larger scale, being often two or three feet across. The *upper slate* formation is supposed to be below the coal formation in the series. The superior portion consists of dark micaceous shale, splitting into thin laminae, with interstratified beds of a very fine-grained grey gritstone, which increase in number, thickness, and coarseness of grain with the increasing depth, until the shale disappears altogether. The thickness of the two portions seen was several hundred feet. The *lower slate* series is deemed by Mr. Jukes to belong to an older formation, and to be composed of two groups, viz., a mass of red and grey sandstone, which, at the Signal hill entrance of St. John's harbour, has a thickness of 800 feet, and the St. John's slate, in which beds of red, green, and greystone alternate near the junction of the sandstone, with the slate rocks forming the transition beds between the two. The thickness of this formation is estimated at 2,000 to 3,000 feet or more. The change of the slate is frequently parallel to the line of stratification, and produces excellent roofing slate. Veins of white quartz and masses

of porphyry are found associated with the slates.

The *Mica slate and Gneiss*, and also the igneous rocks, do not differ from those usually found in other parts of the globe; the mica and the gneiss, however, alternate with and pass into each other; excepting some very indistinct vegetable impressions in the coal formation, no organic remains have yet been found in any rock in Newfoundland.

Nearly the whole peninsula of Avalon is composed of the *lower slate formation*. The country W. and N.W. of Avalon is composed chiefly of variegated slate, coarse sandstone, and conglomerate. The region W. of Fortune Bay, and E. of Cape Ray, consists of primitive rocks, chiefly granite; also gneiss, sienite (porphyry and basalt), quartz, mica slate, clay slate, and turpentine. The W. coast from St. George's Bay to the northward contains, according to Sir R. Bomycastle, the carboniferous rocks. Mr. Jukes says that mica slate, gneiss, and their associated rocks, with occasional patches of primary limestone, extend along the whole of the W. side of Newfoundland, and from the Humber river he supposes they form an unbroken ridge to Cape Quirpon, the extreme northern point of the island. On the N. side of St. George's Bay magnesian limestone dips at a slight angle to the N.N.W. At Grand Pond the cliffs are of gneiss and mica slate. In the N.E. corner an exposed section was found to contain (1) sand and boulders, 10 feet; (2) softish grey and yellowish sandstone, 5 feet; (3) ditto ditto shaly, 1 foot; (4) coal, some part like cannel coal, 6 inches; (5) yellow church, 2 inches; (6) grey bind, 2 feet. All these beds dipped at an angle of 30° to the S.E. The country between Port aux Ports and the Bay of Islands is probably composed of igneous rocks: it is lofty and unbroken. A calcareous formation stretches across the mouth of the Humber river, in hills of 400 to 500 feet high. About three miles up the river are lofty precipices of pure white marble, crowned and surrounded by thick woods, which closing in upon the rapids, produce most picturesque scenery. Mr. Jukes says that blocks of this pure marble of any required size may be procured. Mr. Cormack, when crossing the island from Random Sound to St. George's Bay, mentions having seen abundance of serpentine E. of Jameson's lake; N. of the Bay of Despair, granite, sienite, quartz, gneiss, fine clay slate, alum slate, and indications of coal and iron. From the hills at

the back of St. George's Bay, to nearly the centre of the island, he mentions no other rock than granite. In the neighbourhood of Canada Bay on the W. side of White Bay the geological surveyor was informed that limestone exists in abundance, and a specimen brought to St. John's was identical in mineralogical character with the white marble of the Humber.

The "strike" throughout the island rarely varies from a true N.N.E. and S.S.W. course, hence all the other prominent features of the country run in the same direction, not only as regards the ranges of hills, but also the principal lakes, deep bays, and valleys, lie in the same line of bearing. The Bay of Islands is the only important exception to this rule. The "strike" and cleavage of the rocks are not absolutely dependent on the strike and dip of the beds; the "strike" of the cleavage is not invariably parallel to the strike of the beds; but the cleavage is much more constant as regards its strike and dip in relation to the points of the compass than it is in relation to the strike and dip of the beds, or than those latter are to the horizon and points of the compass.

As regards the relative age of the igneous rocks, Mr. Jukes supposes that the granites are generally newer than the mica slate, and the gneiss which repose upon them. The coal formation seems to be contemporaneous with that of Western Europe, Nova Scotia, Cape Breton, and New Brunswick, and the most modern group of stratified rocks in Newfoundland; he adds, "the mass of the granites and other unstratified rocks are more recent than the lower slate formation; some of them at least more recent than the upper slate formation, and they may be more modern even than the coal formation." Lieutenant-colonel Sir R. Bomycastle, alludes to the evident volcanic action among the primary sandstones and conglomerates, and other indications of the same power which has been exhibited in Canada, and generally British America. Granite boulders are plentiful, and frequently of large size, and found on the tops of hills 400 to 500 feet, composed of gritstone, slate, or sienite, 20 or 30 miles from where any granite is to be found. Over the greater part of the island, drifted materials to the depth of several feet are to be met with.

At the river Exploits, was found a fine unctuous clay, perfectly plastic, 15 or 20 feet thick, and lying in thin layers, usually of a

slate colour, with a reddish band here and there, but no sand. Above the clay rests a bed of fine sand two or three feet thick. It is evident from the foregoing, that abundance of building and of roofing materials, of limestone and of marble are obtainable in Newfoundland.

The prevailing rock on the Labrador coast, so far as we know, is gneiss. On this at Anse le Loup, a bed of old red sandstone is super-ground, about 200 feet thick, and extending above half a mile inland. Here also, as on every other part of the coast of Labrador visited, the appearance of the cliffs, and of the land near them, and the rolled masses, inland, which have evidently been exposed to the action of the sea, seem to prove that it has considerably receded. The sandstone is generally red and white, in alternate stripes, and presents a remarkable mural front to the sea. Near the surface it was strongly marked with iron. The whole of the rock was composed of white quartz and yellow felspar; the grains being generally as fine as oatmeal, though occasionally coarser, even to the extent of half an inch in diameter. Both coarse and fine, bear marks of being a mechanical deposit, and are, with few exceptions, perfectly distinct, without the least appearance of amalgamation. Over the red sandstone was a thin stratum of red compact felspar, containing vegetable impressions, and also horizontal. Above this were varieties of secondary limestone, arranged in parallel strata several feet thick, and full of shells. Detached masses of primitive limestone were also found; and a few miles from the shore the secondary formations generally disappeared, leaving gneiss and mica slate on the surface.

MINERALOGY.—Coal. There are beds of this valuable mineral on the south side of St. George's Bay, and in the counties north of the Great Pond; there are probably other beds on the west coast. The Newfoundland coal field is evidently a continuation of the coal strata in Nova Scotia, Cape Breton, New Brunswick, and Gaspé. Mr. Jukes says, that the seams he saw were of no great thickness, but that more important ones will probably be found. At eight miles from the Gulf shore a bed of coal, known to the Mic-mac Indians, was seen of three feet in thickness and of excellent quality. The guides said that equally valuable beds, in a similar parallel were to be found up the Codray river. The extent of the coal field is estimated at 25 miles long by 10 broad.

As population increases in the island this discovery will be found of great value, and tend much to its improvement.

Gypsum comes out in abundance on the sea cliffs at Codray harbour, and the S. side of St. George's Bay. Beds of limestone of inferior quality are found in Mortier Bay, and Chapel Cove in Holyrood, and in Conception Bay.

Copper.—A small vein of sulphuret and green carbonate exist in the Signal Hill sandstone of Shoal Bay, and was worked to some extent in the middle of the last century.

Lead.—Crystals of galena were seen in the sienite on the west side of the harbour of Great St. Lawrence. There is said to be an *iron mine* on the northern side of Belle-isle, and another at Harbour Grace. There is also a quantity of the mineral called marcasite, copperas stone, and horse gold, iron pyrites (which some of the earlier discoverers mistook for gold), found in the vicinity of Catalina harbour.

Salt springs are reported near the W. coast.

SOILS.—The thick coating of moss, which Mr. Jukes calls the "curse of the country," prevents the nature of the soil being generally known: where this moss has been cleared away, as at the south side of St. George's bay, the excellence of the earth has been manifested. The soft sandstones and rich marls which compose the coal formation, generally form very fertile districts. The timber, natural grass, and clover found in various places, indicate a productive soil. There are valuable alluviums in the neighbourhood of the rivers and lakes. The stunted forests on the east and south shores mark a poor country; but the large forests in the interior and to the westward, show that there is abundant room for successful agriculture, and that Newfoundland could well supply itself with vegetable and animal food. On the settled parts of the east coast there is none of the rich black soil caused by accumulating vegetable decomposition. Around St. John's the soil is shallow, poor, and hungry, formed of decomposed sandstone and slate rocks, with a loose and friable mixture of silicious and aluminous matters. It requires constant manuring of fish, seaweed, mud, and ashes, to produce crops. There is much of a whitish-gray clay about St. John's; passing through the usual gradations to pipe-clay, unless largely mixed with lime, it is too purely aluminous to be

serviceable. Wherever the variegated slate, or the igneous rocks, are found, the land is better, the grasses more luxuriant, the forest-trees finer, and the potato crops are more certain. The belt of a few miles along the east coast, consisting of decayed sandstone coloured by iron, with a saline atmosphere, and exposed to almost constant tempestuous weather, affords no criterion of the fertility of other parts of the island.

CLIMATE AND DISEASES.—The climate of Newfoundland is different in the northern and southern districts, and the west coast is more sheltered, and therefore milder than the east coast. The weather, although severe, is less fierce than that of Lower or Eastern Canada. The summer is shorter than that of Canada, the autumn less certain, and the winter a series of storms of wind, rain, and snow. Snow does not lie long on the ground, and the frost is less intense than in Western Canada. Winter lasts from the beginning of December until the middle of April. January and February are the coldest months. Severe gales of wind extend along the coast, the coldest from the N.W. The land or westerly winds are naturally drier than the easterly winds, which sweep over the Atlantic for three-fourths of the year, and cause considerable evaporation from the ocean over the banks. In Newfoundland, as in Canada, the land or N.W. wind in winter is bitterly cold; in summer it is pleasantly warm. The sea, or north-easterly wind, is cold both in summer and winter; the south-easterly, warm. During a long winter, the brilliancy of the aurora borealis, and the splendid lustre of the moon and stars give peculiar beauty to the atmosphere. The most remarkable feature connected with Newfoundland is the fogs on its banks and neighbouring shores.

The fogs of the Gulf of St. Lawrence are attributed to the *coldness* of the Gulf waters, which is believed to be constant a few feet below the surface as well as at great depths; every gale of wind brings this cold water to the surface, by which the temperature of the air is reduced below the dew point, at which suspended vapours are precipitated and become visible. Those on the Banks of Newfoundland are most probably caused by the cold deep water flowing from the Pole to the Equator, being there forced to the surface in consequence of the interruption given by the banks to its southward course. The surface water on the Great Bank is many degrees colder than that of the neighbouring sea,

and much less than that of the Gulf stream, which is within a short distance.

Mr. Jukes describes the water in Trinity Bay as "bitterly cold," even in the middle of a warm July, and so singularly clear that when the surface was still, the echini, shell-fish, and cretinike clinging to the rocks, crabs and lobsters crawling on the bottom, fish, meduse, and myriads of sea creatures floating in its depths, were as clearly visible to a depth of 30 or 40 feet, as in the air itself.

The fogs on the banks of Newfoundland, and even in the Gulf of St. Lawrence, are sometimes so dense, that in fine, almost calm weather, with the sun shining over head, two vessels pass each other unseen, while the voices of persons talking can be heard from either ship. The fog appears to lie on the surface of the water, for when near land, an observer from the mast-head may descry it quite distinctly, while on deck no object within a few yards distance is visible. The fogs are not generally attended with rain, but the decks are often kept wet, and the higher masts and rigging collect the condensed moisture of the atmosphere in large drops. Fogs do not prevail at all seasons; in May and the beginning of June they are most prevalent. The annual register of fogs for 1811, shews: January, one day and a half; February and March, none; April, one; May, three; June, two; July, one; August, one; September, four; October, one; November, two; December, one. Total, 17½ days. Of light fogs or mists there were in 1811, 19½ days; shewing, altogether, 37 days of foggy weather throughout the year. The E. and S. shore of Newfoundland are more subject to fogs than the W. coast. In summer, an easterly wind brings fog; W. and S.W. winds, rain. The land or W. winds are drier.

In the early part of summer, when the waters have acquired a temperature approaching that of the air, a peculiar mirage is observable off Newfoundland and in the Gulf of St. Lawrence; during its early existence the line of trees with which the hills are covered, seem raised much above the level of the rest, resembling a lofty hedge row; this, however, is soon lost, as all the trees apparently attain the same height, giving the appearance of an immense table, stretching from hill to hill; the shores in the mean time assume the semblance of a great wall, and the island seems girt with a similar inclosure, or bounded with precipices at

round; their tops also look flat like tables, and the small island often assumes a flower-pot shape. Dr. Kelly observed one instance in the river St. Lawrence, where the islands of Bic and Biette appeared to join—their wooded tops to meet, leaving an arch, beneath which the waters seemed to flow. On the beach the spray seems to rise in foam to the tops of these imaginary cliffs, while the houses, &c., attain a similar height. Ships, according to their distance, present different elevations, sometimes rising to twice their real height, at others the masts reach only a few feet from the deck; sometimes the upper sails seem double—a second set being seen at a considerable height above the first—while again a second vessel's hull, sails and all, is seen above the first; but in no instance is inversion observed, and the object thus refracted is always visible to the naked eye. The fogs do not appear to be injurious to health. The longevity of the inhabitants is indeed the best proof of the salubrity of Newfoundland; in no country is old age attended with greater bodily vigour and mental animation. There are instances of fishermen 100 years of age being actively employed in the arduous duties of their calling.

In 1829, Martin Galten was living at Marasheen island, Placentia Bay: he was then more than 100 years old, in excellent health, and caught with his brother that year nine quintals of cod fish. Seventy years previous he piloted Captain Cook into Placentia Bay. In the same place lived Nancy Zibean, mother of four living generations. A Mrs. Tait died there in 1819, aged 125 years: she was with her third husband at the siege of Quebec by General Wolfe. Colonel Bonnycastle stated in 1842 that a woman died recently at Torbay, near St. Johns, aged 125 years, and before her death she sent for a doctor to see what was the matter with her poor child, who was sick, the said child being then 90 years of age.

The reports furnished to the "Horse Guards" and "Army Medical Board," confirm this view of the salubrity of the island. This official return states, that

"The climate of the southern portion of Newfoundland is similar to that of Nova Scotia, except that the summers are colder, of shorter duration, and liable to more sudden vicissitudes, owing to the melting of the icebergs on the coast, which exerts considerable influence on the temperature; the island has also been long noted for the frequent and dense fogs which prevail along its banks, and often continue during a great part of the summer. None of these agencies, however, seem to operate prejudicially

on the health of the inhabitants, among whom the mortality is on a lower scale than in any portion of the American continent.

"According to the population returns, the deaths are only 1 in 76 of the population—an exceedingly low ratio indeed, especially when it is considered that upwards of 20,000 are children under 15 years of age. As the inhabitants are scattered over a great extent of coast, several of the deaths may possibly have been omitted; but, even making all due allowance for that source of error, their rapid increase, without any material aid from immigration, furnishes sufficient proof that the climate, however unpleasant to the feelings, is highly favourable to the constitution.

"Had we drawn our conclusions in regard to the climate, however, from the mortality among the troops at this station, we should have been led to very different conclusions. Unfortunately, we cannot extend our observations on this subject to an earlier date than 1825, because, prior to that period, the garrison having principally consisted of two companies of one of the regiments at Halifax, their returns were frequently included with those of that station. Since 1825, however, a corps has been formed for service in this colony, consisting of three companies of veterans, who, although for the most part aged or disabled, have been reported as fit for garrison duty. These, with a company of artillery, have generally constituted the whole force, among whom the sickness and mortality has been as follows:—

Years.	Newfoundland Veteran Companies.			Royal Artillery.		
	Average Strength	Deaths	Mean Sick	Average Strength	Deaths	Mean Sick.
1825 .	321	18	20	61	4	4
1826 .	292	7	17	56	1	1.2
1827 .	310	8	18	62	...	2
1828 .	336	14	20	72	2	3.6
1829 .	275	15	12	69	1	2
1830 .	258	15	16	68	3	1
1831 .	230	16	16	65	3	2
1832 .	205	8	24	57	1	3
1833 .	189	7	10	55	...	1.3
1834 .	241	3	12	60	1	1.6
1835 .	255	11	12	66	1	2
1836 .	268	10	14	71	...	2.7
Total .	3,189	132	191	762	17	22.8
Ratio per 1000 { of Strength }	41.	60.	...	22.	30.	

"From this table it appears that the mortality among the veterans has been upwards of 41 per 1,000 annually, on the average of the last 12 years, while that of the artillery has been only 22 per 1,000 during the same period. The high ratio among the former may in part be accounted for by their advanced age, nearly one half being between 35 and 40, and the other half above that period of life; but it appears still more attributable to the immediate effects of intemperance, as the records of that corps furnish most startling evidence of the general prevalence and destructive consequence of this vice.

"In a nominal roll, transmitted to the medical department, of those who died between 1825 and 1832 in the veteran companies, we find the following causes of death recorded:—

Total deaths from 1825 to 1832 inclusive	100														
Whereof—															
Died by suffocation from drinking	10														
" delirium tremens	15														
" apoplexy, principally from intoxication	15														
Found dead, supposed from same cause	2														
Drowned	1														
Contusion	1														
	— 44														
Died by disease	56, viz.—														
By Fevers	<table> <tr> <td>Feb. Cont. Com.</td><td>1</td></tr> <tr> <td>" Typhus</td><td>1</td></tr> <tr> <td>" Pyrexia</td><td>1</td></tr> <tr> <td>" Pneumonia</td><td>3</td></tr> <tr> <td>" Phthisis</td><td>16</td></tr> <tr> <td>" Catarrhus</td><td>17</td></tr> <tr> <td>" Asthma</td><td>1</td></tr> </table>	Feb. Cont. Com.	1	" Typhus	1	" Pyrexia	1	" Pneumonia	3	" Phthisis	16	" Catarrhus	17	" Asthma	1
Feb. Cont. Com.	1														
" Typhus	1														
" Pyrexia	1														
" Pneumonia	3														
" Phthisis	16														
" Catarrhus	17														
" Asthma	1														
" Diseases of the Lungs	37														
" Diseases of the Liver	<table> <tr> <td>" Hepatitis</td><td>5</td></tr> <tr> <td>" Icterus</td><td>1</td></tr> </table>	" Hepatitis	5	" Icterus	1										
" Hepatitis	5														
" Icterus	1														
" Diseases of the Stomach and Bowels	<table> <tr> <td>" Gastritis</td><td>5</td></tr> <tr> <td>" Diarrhea</td><td>2</td></tr> </table>	" Gastritis	5	" Diarrhea	2										
" Gastritis	5														
" Diarrhea	2														
" Dropsy	<table> <tr> <td>" Ascites</td><td>3</td></tr> </table>	" Ascites	3												
" Ascites	3														
Total	56														

" Thus little more than one-half of the mortality among the veterans has been in any way attributable to natural causes, and as large a proportion might have occurred among persons at the same period of life, even in this country. The returns from this station are not sufficiently complete to admit of our detailing the diseases of the artillery with similar minuteness, nor even to carry the investigation relative to the veterans beyond 1832; but, as so large a proportion of the deaths has been traced to intemperance, many of the admissions into hospital are likely to have been attributable to the same cause; consequently, even if obtained, these returns, when subject to so manifest source of error, could have afforded no accurate data for determining the influence of this climate on the constitution of our troops.

" The fate of so large a proportion of this garrison, by their own imprudence in the use of spirituous liquors, affords a striking illustration of the progressive effect and ultimate consequence of long continued habits of intemperance. In Nova Scotia, for instance, we find, that though this vice prevails to a great extent among the troops, the mortality is as low as can be expected in any climate, even among persons of abstemious habits. But there the troops are, for the most part, men in the prime of life, whose excesses produce little sickness or mortality, while they have the advantage of youth on their side; but they are silently laying the seeds of disease in their constitution, and inducing premature old age and disability, so that by the time they attain the same advanced period of life as the veterans, a repetition of excesses, which might formerly have been

indulged in with comparative impunity, hurries them to an untimely grave.

" In regiments of the line, the number of men at an advanced period of life being but small, the premature deaths caused by drunkenness are lost in the mass, and add little to the general mortality. It is only when a corps is composed of men advanced in years that the ultimate consequences of this vice can be traced to their full extent, or so strikingly manifested as in the present instance."

The highest and lowest of the thermometer and barometer in 1841, registered by Sir R. Bomycastle, was:—

Months.	Thermometer.		Barometer.	
	Highest.	Lowest.	Highest.	Lowest.
January	44.0	3.0	30.3	28.7
February	42.6	4.6	30.2	28.6
March	47.0	0.5	30.3	28.8
April	56.5	14.3	30.2	28.9
May	62.0	21.8	30.2	29.1
June	74.0	29.8	30.1	29.2
July	79.5	34.8	30.1	29.3
August	78.3	38.5	30.2	29.3
September	75.3	33.5	30.2	29.3
October	68.3	24.0	30.3	29.2
November	57.0	16.5	30.2	28.9
December	44.5	5.6	30.1	28.9

On the 15th February, 1841, during a severe storm from W.S.W., the thermometer fell from 40 to 19, and the barometer from 29.8 to 28.5.

The annual average of the thermometer and barometer for six years was as follows:—

Months.	Ther.	Bar.	Months.	Ther.	Bar.
January	22.7	29.6	July	57.4	29.7
February	42.6	29.6	August	58.3	29.8
March	24.0	29.7	September	53.3	29.8
April	53.8	29.6	October	44.0	29.8
May	39.5	29.7	November	34.0	29.6
June	49.8	29.7	December	26.0	29.6

The Newfoundland almanac for 1845 gives the following comparison of the barometrical and thermometrical averages in Newfoundland and England; the averages are the mean of observations for six years:—

Months.	Barometer.						Thermometer.					
	Mean Height.		Highest.		Lowest.		Mean Temp.		Highest.		Lowest.	
	N.	E.	N.	E.	N.	E.	N.	E.	N.	E.	N.	E.
January	29.68	29.72	30.35	30.77	28.75	28.89	22.7	39.0	44.0	52.0	3.0	11.0
February	29.62	29.96	30.24	30.82	28.39	29.17	19.75	38.0	42.67	53.0	4.67	21.0
March	29.74	29.84	30.54	30.77	28.62	28.87	24.0	43.9	47.0	60.0	9.5	24.0
April	29.66	29.88	30.26	30.54	28.94	29.20	33.8	49.9	56.5	74.0	14.3	29.0
May	29.76	29.90	30.22	30.38	29.43	29.66	39.5	54.0	62.0	70.0	21.8	34.0
June	29.77	32.02	30.14	30.46	29.22	29.60	49.8	58.7	74.0	80.0	29.8	37.0
July	29.79	29.87	30.48	30.50	29.37	29.39	57.4	64.0	79.5	76.0	34.8	42.0
August	29.33	29.89	30.21	30.26	29.35	29.35	58.3	61.6	78.3	82.0	38.5	44.0
September	29.83	29.93	30.29	30.44	29.32	29.41	53.3	57.8	75.3	76.0	33.5	36.0
October	29.89	29.77	30.31	30.61	29.26	29.74	44.0	48.9	68.3	68.0	24.0	27.0
November	29.67	29.77	30.27	30.27	28.90	29.08	34.0	42.0	57.0	62.0	16.5	23.0
December	29.66	29.69	30.40	30.32	28.98	29.12	26.0	39.3	44.50	55.0	5.66	17.0

CHAPTER III.

GOVERNMENT, REVENUE, POPULATION, RELIGION, EDUCATION, AND CRIME.

GOVERNMENT is administered under a constitution granted in 1832, and subsequently modified in accordance with the responsible system which exists in the other North American colonies. The executive council consists of nine members, who also compose the legislative council. The House of Assembly consists of fifteen representatives. St. John's returns three members, Conception Bay four, and the other districts one each. The elective franchise was conferred in 1832 on the whole male population occupying dwelling-houses either as owners or tenants for one year.

Judicature and Police.—The official report on this subject in 1848 is complete:—

"The Supreme Court is constituted under the imperial statute, 5 Geo. IV. c. 67, and the Royal Charter issued in pursuance of the statute. It is composed of a chief justice at a salary of £1,200 sterling, and two assistant judges, each at a salary of £700 sterling, secured by Act of the Legislature. The Court has jurisdiction throughout the whole government of Newfoundland and its dependencies, and on the seas and banks to which vessels resort for carrying on the fishery, and has all criminal and civil jurisdiction, as fully and amply to all intents and purposes, as the Queen's Bench, Common Pleas, Exchequer, and High Court of Chancery in England, and is also a Court of Oyer and Terminer and General Gaol Delivery. The Court sits only at St. John's, the capital of the island, at such times as the governor by his proclamation may appoint. The terms rarely exceed two, one in spring and one in autumn, for a period of about three or four weeks each. All civil actions, in which the matter in dispute exceeds forty shillings, are tried by jury. The practice on the common law side is in general the same as that of the Court of Queen's Bench, modified by rules adapted to the circumstances of the colony. The practice on the equity side is governed by a code of rules, subject to which modification, the practice of the English Court of Chancery prevails. In prosecutions for breaches of the laws relating to trade and revenue, the Supreme Court proceeds according to the rules and practice of the courts of Vice-Admiralty. This Court alone, is also invested with the power of granting probates of wills and letters of administration, and with the control of the persons and property of infants and lunatics. An appeal lies from the Supreme Court to the Queen in Council, where the matter in dispute exceeds £500. The officers of the court are the chief clerk and registrar, at a salary, in lieu of fees, of £350 sterling, (lately reduced from £500) who is also by virtue of his office, Registrar of Deeds for the central district, appointed by warrant under the Royal Sign Manual. A crier, at a salary of £60 sterling, appointed by the chief justice for the time being, both salaries voted annually by the Assembly.

Circuit Courts.—The island is divided into three judicial districts, the central, northern, and southern, within which, respectively, there is a superior Court of Record, styled the Circuit Court, held by the chief or one of the assistant judges of the Supreme Court. This Court has the same jurisdiction, powers, and authority within the district as the Supreme Court throughout the whole island, save in cases of treason, and capital felonies, and in prosecutions for breach of the revenue laws.

"The Circuit Court for the central district (or district of St. John's) sits at the town of St. John's only. Its terms generally precede those of the Supreme Court in spring and autumn, and last for periods of about four weeks, and its practice is the same as that of the Supreme Court.

"The Circuit Court for the northern circuit sits twice in the year at Harbor Grace for periods of about four weeks in spring and autumn; and once a year during the months of September and October at the following places, viz.:—Twillingate, Fogo, Greenspond, Bonavista, and Trinity, for periods of a week or 10 days at the respective places.

"The Circuit Court for the southern district sits once in the year only, at the following places, during the months of September and October, viz., Harbor Briton, Burin, Placentia, St. Mary's, and Ferryland.

"The terms and places of holding the Circuit Courts are annually fixed by the governor's proclamation. The practice of the northern and southern Circuit Courts is governed by a code of rules adapted to the state and circumstances of the outports. An appeal lies from the Circuit Courts to the Supreme Court in matters exceeding £50 sterling. Each of these Courts has a clerk, (who is also the Registrar of Deeds within the district,) appointed by warrant and under the Royal Sign Manual at a salary of £200, and fees amounting in the northern district to £150 or £180, and in the southern district to less than £50.

"Courts of General and Quarter Sessions are also held at St. John's and the principal outports, the sittings of which are regulated by the governor's proclamation. The English Criminal Law being in force in the colony, these Courts and the magistrates have (so far as the law can be applied) jurisdiction and powers similar to those of the quarter sessions and justices of the peace in England. Trials, however, by jury, in criminal cases, with occasional exceptions at St. John's, always take place in the superior Courts. The courts of Session have also a summary jurisdiction in the recovery of debts for sums not exceeding 40s.; in disputes relating to the curing of fish to the amount of £5, and concerning the wages of seamen and fishermen, hiring of boats, and the supply of bait to an unlimited amount. These courts are presided over by the stipendiary magistrates, of whom there are three at St. John's at salaries of £300 sterling each, two at Harbor Grace at salaries of £180 and £150, and one at each of the 13 other outports at salaries varying from £100 to £150; the total cost being £2,350 sterling, voted annually by the Assembly.

Sheriffs.—There are three sheriffs, one for each of

the judicial districts, at salaries of £750 for the central, £300 for the northern, and £200 for the southern district, secured by an Act of the Legislature. The sheriffs are appointed annually by the governor.

"*Clerks of the Peace.*—There are 11 clerks of the peace, one at St. John's at a salary of £300, one at Harbour Grace at a salary of £150, and one respectively at Brigus, Ferryland, Placentia, Burin, Harbor Briton, Trinity, Bonavista, Carbonear, and Twillingate, at salaries from £35 to £60 without fees. Their salaries, with the exception of that of the clerk of the peace for St. John's are voted annually by the Assembly. The clerks of the peace are appointed by the governor.

"*Constables.*—There are, at various places throughout the island, in all, 66 paid constables, at an annual stipend varying from £12 to £45, with the exception of the high constable at St. John's, who has £80, and at a total cost of £1,391 sterling, voted annually by the Assembly. These are all the constables of the island, there being none who serve gratuitously.

"*Gaolers.*—There are six gaolers, one at St. John's at a salary of £150, one at Harbour Grace at £90, and one respectively at Ferryland, Placentia, Burin, and Trinity, at £25 each (in lieu of fees), voted annually by the Assembly. There being no local rates or assessments in the different districts, the whole expense of the administration of justice, support of the

poor, and for other public services and works, is defrayed out of the public revenue."

POPULATION.—In consequence of the extensive fisheries carried on along its coasts, the population of Newfoundland necessarily fluctuates. Until recently there has been no accurate census. In 1785, the resident population was estimated at 10,224; in 1806, at 26,505. Since 1822, as follows:—

Years.	Males.	Females.	Total.	Marriages.	Births.	Deaths.
In 1822	31,746	20,401	52,147	516	1,675	735
" 1827	34,617	23,471	58,088	442	1,879	696
" 1836	41,467	32,338	73,805	—	—	—
" 1845	52,274	44,232	96,506	—	—	—

According to a census taken in 1825, of classes, there were of masters, 6,131; mistresses, 6,211; men servants, 11,537; women-servants, 4,210; children under 15 years, 20,204. The number of French on the coast was then stated to be 12,000.

The census of 1836 contains the following:—

Districts.	No. of Dwelling-houses.	Family.						Total Population.
		Males.			Females.			
		Under 14 years.	14 to 60 years.	Upwards of 60 years.	Under 14 years.	14 to 60 years.	Upwards of 60 years.	
St. John's	2,781	3,718	4,984	166	3,611	4,123	201	18,926
Conception Bay	3,521	4,971	5,289	202	4,452	4,812	261	23,215
Trinity Bay	959	1,546	1,565	108	1,372	1,320	110	6,803
Bonavista Bay	801	1,182	1,149	98	1,059	1,010	71	5,183
Fogo and Twillingate	703	1,124	1,059	87	1,101	872	59	4,886
Ferryland	679	882	1,223	77	758	878	53	5,860
Placentia and St. Mary's	712	1,024	853	68	989	925	49	4,701
Burin	461	639	664	35	644	605	32	3,140
Fortune Bay	454	680	600	69	623	604	28	3,129
Totals.	11,071	15,766	17,386	910	14,609	15,197	864	75,843

The latest census of Newfoundland, dated 1845, gives the following results:—

Census of 1845.	Males.	Females.	Total.
St. John's	13,177	12,019	25,196
Conception Bay	14,899	13,127	28,026
Trinity	4,687	4,112	8,799
Bonavista	3,943	3,284	7,227
Fogo	3,771	2,973	6,744
Ferryland	2,623	1,958	4,581
Placentia and St. Mary's	3,578	2,895	6,473
Burin	2,845	1,873	4,718
Fortune Bay	3,109	1,991	5,100
Total in 1845	52,274	44,232	96,507

At present, the population is upwards of 100,000. At St. John's, society is composed of the same classes as in other British settlements. Along the coasts many of the colonists employ themselves in farming as well

as in fishing; and since the period that attention has been paid to religion and education—aided by temperance societies—the population has become far more orderly and continuously industrious than they were in by-gone times.

When Newfoundland was first visited after the general discovery of the continent of America, it was found to contain two distinct races of men—the one termed *Red Indian*, the other the *Esquimaux*; both are now almost extinct, the former perhaps entirely so, as recriminating hostilities were waged between them and the early settlers, who shot and speared each other whenever an occasion presented itself. The destruction of the Red Indians was not owing solely to the occupation of the island by Europeans, but to the exterminating war of the Mic-Macs.

Military Defence.—There are 11 harbour batteries. There is no militia or local corps. The military defence is defrayed entirely by Great Britain, and amounted, in 1818, to £27,174. Fifty pounds are allowed by the colony towards the payment of the duties on wines imported or purchased annually for the use of the military.

Ecclesiastical Establishment.—In 1839, Newfoundland, which until then had been a part of the diocese of Nova Scotia, was, with the Bermudas, erected into a separate see. The established church has 32 clergymen, 18 parsonage houses, 61 churches, or places for the celebration of divine service. Of Roman catholic chapels there are 35. There are about 30 dissenting places of worship, of various denominations. Of the reformed religion, the class the most numerous, and by far the wealthiest, is that of the church of England; they number 34,281 persons. Next to them, in point of number, are the Wesleyans, of whom there are 14,239 persons: their establishment consists of 13 ministers, and they have 34 places of worship. The Presbyterians of the church of Scotland number 576 persons, and they have one minister resident in St. John's, and one place of worship. There is likewise a congregational church at St. John's, and one resident minister; this section numbers 394 persons. The Roman catholic population number 46,785 persons; they have 12 churches, and a cathedral at St. John's, not yet consecrated. Their establishment consists of a bishop and 24 clergymen. To the bishop, a salary of £75 a-year, drawn from the North American clergy estimate, was formerly assigned; but that sum, by a vote of the House of Commons in the past year, was raised to £300.

The census of 1836 shows:—

Districts.	Schools.	Male Pupils.	Female Pupils.	Protestant Episcopal.	Protestant Dissenters.	Roman Catholics.
St. John's	37	1,041	1,379	3,813	1,057	11,056
Conception Bay	23	621	492	6,819	6,332	10,663
Trinity Bay	2	158	127	4,068	1,639	1,966
Bonaville Bay	6	128	136	3,473	161	1,219
Pogo and Twillingate	1	48	36	1,022	45	819
Ferryland	6	133	167	313	—	4,798
Placentia and St. Mary's	4	96	96	717	6	3,285
St. John's	1	—	12	471	1,195	1,574
Fortune Bay	—	—	—	2,812	—	308

EDUCATION.—There is a male orphan asylum with 470 children; six grammar schools and academies, under the control of the local government; 40 schools established by the “Newfoundland and British North

American School Society,” on the Madras system, with about 2,781 male and female pupils in 1818, to which the local government subscribed £500 per annum; and eight schools under the Wesleyan methodist connexion, to which the local government contributes £250 per annum. There is a “presentation convent school,” with 400 female children, conducted by 11 ladies, nuns of a religious order. The superior, Mrs. Risevare, superintends under the Roman catholic bishop for the time being. Dr. Fleming, the present Roman catholic bishop, has, it is said, hitherto supported the establishment, with the exception of an annual grant from the colonial legislature. Since the fire of 1816 the number of pupils has not exceeded 500. A want of accommodation alone prevents a much larger attendance: the Blue Book for 1818 states, that

“Under an Act of the local Legislature for the encouragement of education in the colony, elementary schools have been established in every district in the island. By the provisions of this Act of the Legislature, power is given to the governor to constitute in each district two separate and distinct Boards of Education, Roman catholic and protestant; by nominating seven respectable inhabitants of each creed to each section. One resident clergyman of each persuasion being *ex officio* a member of his respective Board, and to their care the regulation and supervision of these schools is entrusted.

“The scheme for the government of these schools has been found to be both efficient and satisfactory. The amount expended in furtherance of this object for the year 1847, was £6,067. His Excellency rightly adds, that in the present state of the great mass of the population of the colony, consisting, as it does, of simple and hardy fishermen, the subjects of instruction must necessarily be of a simple and elementary nature. For the benefit of this class the colonial grant is given, a separate provision having been likewise made for those, whose children require a higher education, it being the intention of the Legislature to provide for the education of the sons and daughters of fishermen; of children that are to live the same simple, laborious, and honourable life as their parents are now doing. For it should not be lost sight of that the instruction must always have reference to the station in life which the child is hereafter to fill, the two-fold scope and object of all education being first to impart to the child that practical knowledge of his duty to God and man, and of the grand purpose of his existence here, which may, through his mercy, ensure his present and eternal happiness, and secondly, to convey that secular instruction which may best enable him to perform the part assigned to him among his fellow-men for their mutual good.”

The census of 1815 shows 209 schools:—

Conducted by Masters.		Conducted by Mistresses		Total.
Male Pupils.	Female Pupils.	Male Pupils.	Female Pupils.	
5,168	3,574	358	866	10,266

The Press and Institutions.—There are twelve newspapers published in the colony, viz.—ten at St. John's, and two at Conception Bay. There is a chamber of commerce, an association of underwriters, a gas-light company, two public libraries, fire companies, agricultural, benevolent, law, and other societies, &c.

Roads and bridges are under construction or repair in every district of the colony, and a large part of the revenue is being devoted to this important purpose. A colonial legislative building is constructing at St. John's, at an estimated expense of £15,000, and a market at £7,000; £9,000 had been spent on the former, and £4,000 on the latter up to 1848.

Crime.—There are three prisons, viz., at St. John's, Harbour Grace, and Ferryland; and the number of prisoners in confinement at Michaelmas, 1848, was nine males and one female; of felons there were, tried, males, five; females, three. Untried, males, six. The number of debtors was 19. The tried misdemeanours were, males, 78; females, 3. Untried, males, 31; females, one. Of the total number of prisoners committed during the year 17 were under 18 years of age; of those who could not read or write, 34 were males and 6 females.

Revenue.—The sums collected in 1828 from customs, duties, rent of crown lands, licences, &c., amounted to £15,972; in 1836 to £35,222; in 1843 to £50,881; in 1847 to £69,049.

The revenue of Newfoundland for 1848 and 1847 was—

Heads of Revenue.	1848.	1847.
	£	£
Under imperial acts	5,783	6,211
" colonial acts	48,154	52,127
Light dues	1,627	1,728
Land sales and rents	1,156	382
Licences, fines, &c.	574	534
Fees of public offices	1,204	832
From N. A. clergy establishment	800	800
By loan under colonial acts . . . . .	...	1,885
Parliamentary grant for fire sufferers . . . . .	...	4,160
Drawn from treasury for expenses on a shipwrecked vessel . . . . .	...	387
	59,300	69,049
Expenditure	62,711	74,873

The civil department cost, in 1848, £5,921; Customs estimated, £7,580; Judi-

cial, £6,580; police and magistracy, £5,571; ecclesiastical, £800; legislative, £119 (in 1847, £3,317); printing and stationery, £492; gaols, £521; coroners, £200; relief of poor, £9,700; education, £5,128; interest on loans, £1,328; loans paid, £5,100; and various other items, including rewards amounting to £25, for killing wolves. The governor has a salary of £3,000 a-year, with a house, and £200 for fuel and light, and a private secretary £200; colonial secretary, £500; treasurer, £500; surveyor-general, £500; collector, £800; chief judge, £1,200; two assistant judges, £700 each; attorney-general, £150; registrar of supreme court, £350; sheriff of central district, £750; ditto of northern, £300; ditto of southern, £200; three stipendiary magistrates at St. John's, £300 each; two at Harbour Grace, £300 and £180 each; one at Carbonear, Brigus, Trinity, Twillingate, and Bonavista, each £150; and eight others at salaries of £100 to £130 each. At St. John's, a high constable, £80; eight other stipendiary constables, £360; and in the other districts, stipendiary constables, whose salaries amount to £954 per annum. The Protestant bishop has £500; the Roman catholic bishop, £300. The Protestant bishop receives also £900 from the "society for promoting the gospel in foreign parts."

A recapitulation of the establishment in 1848, shews:—

Heads of Expenditure.	Paid by Gt. Britain.	Paid by Colony.
	£	£
Civil establishment . . . . .	..	10,321
Contingent expenses . . . . .	..	3,180
Judicial . . . . .	..	11,131
Contingent . . . . .	..	1,020
Ecclesiastical	800	—
Miscellaneous . . . . .	...	36,096
Pensions . . . . .	...	159
Totals	800	61,911

Coins.—British money and Spanish dollars, established by the governor's proclamation at 4s. 1d. sterling, but passing current at 5s. The amount of coin in circulation is estimated at £80,000 to £100,000. The greater part of the trade of the colony is effected by barter.

Paper Money.—Quantity not known; the bank of British North America has a branch at St. John's, and it is the only bank in the island.

CHAPTER IV.

VEGETABLE AND ANIMAL KINGDOMS, AGRICULTURE AND FISHERIES, COMMERCE, TARIFF, SHIPPING, &c.

THE VEGETABLE KINGDOM differs but little from that of the adjacent continent. The interior is supposed to be covered with vast forests; on the east and south coasts the trees are smaller than those growing in the same parallel on the main land, owing to the exposure to the sea and tempestuous weather, but on the W. and N.W. the trees are thickly planted and of considerable size. Of the conifera, the most prominent are the spruces, viz. the *pinus balsamea* or Canada balsam spruce, which reaches the usual height of its species, 30 feet; the *pinus nigra*, or black spruce, grows well at St. George's Bay, as does also the *pinus alba* or white spruce. The *pinus rubra*, red pine, grows about 30 feet in height. The *pinus penicillata*, black larch, and *pinus microcarpus*, red pine, (the *larix Americana* of Michaux), are the most useful of the island forest trees. The timber of the black larch is very solid, strong, and lasting. Excellent brigs and schooners are built in Newfoundland, entirely of the island timber, except the planking, which, as there are no saw mills to prepare, can be procured cheaper from the continent. The consumption of spruce and pine in the island for fishing stages, or places to dry the fish on, is enormous. These erections are formed at the edges of harbours, by uprights of great length, and cross beams from the hill side, forming a platform, which is then loosely covered with the boughs and branches of the pines, so as to admit air from beneath. The steep iron-bound coast renders the construction of these stages absolutely necessary for the prosecution of the trade; the abundance of timber enables the fishermen to erect them at every available spot. The birch tribe are all common, the beech and elm are rare, the *Ostrya Virginica*, iron or lever wood, exists on strong lands. The balsam poplar, trembling or aspen leaved, and the Lombardy poplar, flourish pretty well. The Canadian yew is sometimes of considerable size, the willow thrives well and attains a large size; the mountain ash grows 15 to 20

feet high. The dog wood is plentiful, but is merely a bush.

The timber is larger and more varied at St. George's Bay, the Bay of Islands, and in the country around the Grand Pond, than in any other part of the island. The Bay of Islands has long been a valuable resort for the ship builder, and the whole coast to the northward to the beautiful double bay of Ingornachoix is equally capable of supplying timber for the same purpose. The fir, pine, ash, beech, birch, and juniper (the latter not the shrub of that name, but a larch) are all to be obtained in the interior of the island. The country about the river Humber is densely covered with fine woods. Dr. Chapell describes the banks of the St. George's or Main River as composed of loose earth, covered with various lichens, and surmounted with whole forests of black and white spruce, larch, fir, and birch. There is an immense variety of recumbent and trailing evergreens, and the berry-bearing shrubs clothe every swamp and open tract; the whortleberry, cowberry, hawthorn, partridge berry, trailing arbutus, raspberry, strawberry, and a small kind of prickly gooseberry—carpet the soil in desert places. Sarsaparilla (*aralia medicinalis*) is produced in the woods. Mr. Jukes notices that after the forest is burned down, a crop of wild raspberries springs up, and is succeeded by birch trees; and he also speaks of good currants, raspberries, and gooseberries growing in the garden hedges, and wild in the woods. "At one part," he says, "of Lark Harbour (Humber Sound) where there had been one or two temporary huts and cleared spots, the raspberries were in the utmost profusion, and were equal both in size and in flavour to the best garden raspberries of England. Currants were found pretty plentifully, also chiefly on the cliffs, or wherever there was a broken bank with rocky ledges. They were both red and black, and of a different species from our English currant, being covered over with small spines like the rough red gooseberry; the branches, too, had occasionally a soft

thorn. The flavour was rather harsh, but still very agreeable, especially when made into puddings." The wild gooseberries are more rare; the fruit is small and sweet, precisely like the small rough red English gooseberry. The wild or choke-cherry is a very ornamental tree, the bunches of minute yellowish-white fragrant flowers are followed by long pendulous grape-like fruit, placed on a stalk resembling currants. The fruit is first of a dark red colour, and when ripe, black,—pleasantly astringent, and devoured greedily by birds. The Kentish cherry thrives with care at St. John's. The wild plum, and the *prunus depressa* are common in the woods. The hop thrives near gardens; the melon is reared, and the cucumber and vegetable marrow without much difficulty. The garden strawberry and raspberry are excellent. The apple, pear, and plum do not arrive at great perfection on the east side of the island; but cabbages, cauliflowers, brocoli, lettuce, spinach, cress, beet, parsnips, carrots, peas, Windsor beans, French beans, celery, thyme, mint, savory, and all the British culinary vegetables and herbs arrive at great perfection. Sir R. Bonnycastle says in reference to the remarkable yield of potatoes, that "from one rowan potato cut into pieces he had a crop of 108 good sized tubers." The potato disease reached Newfoundland in 1846-7, and caused great destruction.

There are three species of rose, natives of Newfoundland; this beautiful flower grows in rich profusion; *rosa blanda*, with its slender purple-red branches, flourishes in the vicinity of streams. The moss, lamask, maiden's blush, and Provence rose thrive well in gardens. The moose wood, or heather wood shrub (*dirca palustris*) produces yellow flowers, and a small yellow berry; its bark is flexible, strong, and well adapted for withes to tie packages. Violets are common, but inodorous. In the tribe of lilies, says Sir R. Bonnycastle, "Solomon in all his glory exceeded not the beauty of those produced in this unheeded wilderness. *L. Philadelphicum* is almost the same in appearance as the common orange lily; *L. Superbum* ornaments some of the ponds, and is orange with dark blue spots; *L. Canadense* also grows in wet places, and has a collection of yellow or reddish flowers maculated darkly. The *Iris* or wild flag, is a superb flower, and very common in Newfoundland, its rich blue dotting every marshy place in the flowering season. *Sisyrinchium anceps*, or the blue-eyed grass, also assists the rich display."

The guelder rose is a native of the country: the "hearts-case" once planted in a garden are with difficulty extirpated. The lily of the valley, Solomon's seal, the campanula, convolvulus, Jacob's ladder, honeysuckle, the painted herb, fox-glove, columbine, wild lupine, potentilla, cowslip, yellow and white water-lily, and other flowers, charming and common to England, are found either wild or cultivated in Newfoundland. In sheltered gardens, the dahlia does well by covering its roots in winter. Perennials thrive better than annuals, on account of the shortness of the summer. In general, the flowers are larger and more spread than those of Europe, but not so odorous. The "pitcher plant," or lady's saddle, with its large, handsome, purple flowers, is the natural production of the swamps. The leaves are tubular, or pitcher-shaped, and always filled with about a wine-glass of the purest water: the receptacles are lined with inverted hairs, which prevent the escape of insects, many of whom find their graves in the pitchers, and are supposed to serve for the food of the plant. The lids expand or shut, according to the necessities of the plant, and the pitchers are of so strong a texture, that they bear heat enough, for some minutes, to boil water in them.

There is a very great variety of European and American grasses; the junco, or reed tribe, are numerous, and the lichens and ferns afford a fine field of research for the botanist. One of the most beautiful of the ferns, termed the "maiden hair," (*adiantum pedatum*;) is a little trailing plant, bearing a small white fruit, like the egg of an ant, which contains so much saccharine matter as to be lusciously sweet when preserved. Natural red and white clover, and the vetch, cover the sandy banks near the sea, in Newfoundland and Labrador, to such an extent, especially in Labrador, that vessels requiring fodder, send their boats ashore to gather this rich natural crop. These details, although they refer to but a part of the vegetable kingdom of Newfoundland, are sufficient to disprove the assertions by which it was so long misrepresented as a barren region of fog, ice, and snow, adapted only for the temporary residence of cod fishers and seal hunters.

ANIMAL KINGDOM.—The deer, bear, wolf, fox, hare, marten, dog, wild cat, rat, and mouse, constitute the chief land quadrupeds of Newfoundland with which we are acquainted. Of the deer tribe there are several

varieties: the *caribou*, or *rein-deer*, is a very large animal, with immense antlers; their paths, which resemble sheep-walks, are found all over the country; the foot-marks are like those of a cow, but wider and larger. The moss on which they feed is abundant. During the early part of summer they separate into pairs, and hide themselves in the recesses of the woods. In September and October they are in the best condition, and migrate from the north towards the south, swimming in herds across the lakes and arms of the sea. Formerly, the herds that came to the south coast are stated to have been enormous. Mr. Bagg, of La Froile, says he has seen "thousands," and has killed seven at one shot, with heavy slugs, from a large sealing gun. About March they remigrate towards the north. The flesh is soft, juicy, and tender, and is sold in St. John's, during winter, for fifteen shillings a quarter. This useful animal might be domesticated in Scotland.

Black bears are becoming scarce; they are the long-legged variety, with a pointed muzzle, of a terrier's spot colour, and very large. They live principally on berries; will run from a man, and are not savage, except when wounded. They appear to be fond of pork and molasses; and, in winter, will approach lone houses in the woods in search of food. The white, or polar bear, occasionally lands from the ice at Newfoundland. A fine one was recently killed near St. John's, while endeavouring to make his way across the country, from the east to the west coast.

The wolf is a large and very powerful animal, grey on the back, and yellow beneath. They rarely, if ever, attack men, or even children, but will dodge the steps of a traveller—one or more on each side of him—ready to take advantage of any accident which may befall him. Mr. Lane, of Freshwater Bay, walked, on a winter evening, up Gambo Pond, on the snow, to visit a person living at the head of the pond. On his return, the next day, he found the tracks of two wolves, one on each side of his own foot-marks, who seemed to have methodically accompanied him. The tracks, every now and then, separated for about 100 yards; then, at regular intervals, closed in again on his track. They appeared to have followed him one on each side, in order to come on his track should he diverge, while they met occasionally, to be sure he had not passed them. A wolf is more than a match for a Newfoundland dog. Large numbers of

deer and some young cattle are destroyed by these rapacious animals, for each of whose heads a reward of £5 is given by the colonial government.

The Fox is tolerably abundant; besides the common yellow or reddish, there are the black, silver, blue, and white foxes. The black and silver are much valued for their fur.

The Hare in some parts is plentiful, of a large size compared with those in England; it becomes of a dirty white in winter.

Martens are now becoming scarce; they are considered by some farmers excellent eating, but taste too much of spruce and other woods.

The Dog, so celebrated for its beauty, sagacity, and fidelity, appears to be much neglected in Newfoundland; at St. John's and its neighbourhood they are described by Mr. Jukes as the most ill-looking set of mongrels that can be conceived. In the outports the breed is said to be better preserved. Colonel Sir R. Bonnycastle says, that at the Twillingate islands on the north coast there are still some splendid dogs to be found: they are of two kinds, the short wiry-haired Labrador dog, and the long, curly-haired Newfoundland species, generally black, with a white cross on the breast. Their habits adapt them as much to the water as to the land. The common dogs used in the catamarans are of every possible cross with these, and of every variety of colour and fur. They all appear to prefer fish to any other food, and seem stoically indifferent as to whether it be fresh, salted, or putrid. The spotted mahogany-coloured short-haired Labrador dog, is said to be the most attached to man, and the best house guardian; the other variety with bushy, curling tail, the best water dog; both endure the extreme cold, and prefer a snow bed to any sheltered sleeping-place. The whole race appear to be particularly fond of children: but the Labrador dog, if not well fed, is a sheep biter and a dexterous thief. Newfoundland and Labrador dogs, when removed to a warmer climate are subject to glandular swellings in the ear, which require lancing; they are seldom attacked with hydrophobia, and it is said when ill and past cure they frequently retire to woody or secret coverts to die unobserved.

The Beaver is found only in the interior of ponds and marshes.

The Musquash (fiber zibethicus) or muskrat, whose habits are like those of the

beaver, is abundant; the tail is thick and round, whereas the tail of the beaver is like a trowel.

The common *Rat* is destructively numerous.

The wild *Cat* is found only in the interior.

Birds are numerous in the interior; among those known are the osprey or sea-eagle, the hawk tribe, owls in amazing number and variety, particularly the snow white and the light gray; among the pie family, the raven as elsewhere attends the labour of man; the crow frequents the fields, and a variety of the blue jay is known. Two kinds of wood-peckers are occasionally seen, one the speckled sort. The Newfoundland blackbird is supposed by Sir R. Bonnycastle to be the rose-coloured onzel, and is called in the island a robin, though as large as a blackbird. The martin stays about ten weeks in summer; the yellow willow wren is very common, and the little wren is seen; the ferruginous thrush, fly-catcher, yellow-breasted chatterer, little black-cap, titmouse, the crossbeak, the snow bird resembling an ortolan, and the sparrow, the latter not of the true genus, are all, with various other species of the winged tribes, found in Newfoundland. Ptarmigan are in abundance; they are very like the Scotch grouse, and there is said to be little specific difference between the red grouse, gorecock or moorcock of Bewick, (tetrao Scotiens) and the ptarmigan of Newfoundland, which must not, however, be confounded with the arctic or northern ptarmigan (tetrao lagopus), both turn white in winter; but the Newfoundland bird has a rufous brown plumage, mixed with white in summer. Three of these birds shot near Trepassy, on the 10th of May, weighed together five pounds thirteen ounces and a half. One cock bird, shot 21st January, with nearly white plumage, weighed twenty-eight ounces. They are much used for the table, roasted and made into white soups. Of the grallie there are two or three species; of plover, the golden and the grey; the bittern, long-billed curlew, snipe, whimbrel, and sand-piper are common.

Of *water birds* there are the Canada and snow goose, blue-winged teal, shoveller or great brown duck; widgeon and mallard frequent the interior ponds; and varieties of sea birds, among others the gull, lazy cormorant, boaccalao, pin-tailed duck or sea pheasant, eider duck, kittiwake, tern, ice-bird or sea dove, goosander, noddy, divern or loon, auk, puffin, and razor-bill, the coast. The Newfoundland goose is a remarkably

elegant bird, with a swan-like form and a black ring round its neck; it is easily domesticated but does not breed. In winter many arctic birds frequent the coast; but the large auk or penguin (alca impennis), which less than half a century ago was a sure sea-mark on or within the edge of the Newfoundland bank, has disappeared, from the destructive trade carried on for their eggs and skin. They are about the size of a goose, with a coal black head and back, a white belly, and a milk-white spot under the *right eye*. Their wings are more like fins, and have down and short feathers on them. The auks are said to have no thumbs like the South Sea penguins.

Reptiles.—There is a total absence of venomous reptiles; even toads, frogs, or lizards, which are abundant on the neighbouring continent, are unknown in Newfoundland.

Insects, such as mosquitoes, stinging midges and flies, are in myriads.

Amphibia.—The morse or sea-horse (tricheus rosmarus) formerly abounded on the coast of Newfoundland and on the straits of Belle-isle, but has been destroyed for its blubber and hide, the latter being used for coach traces. The morse is larger than an ox, has been seen 20 feet long, covered with short yellow hair, and has two caninatus in the lower jaw, 2 feet long, pointing downwards.

The *seal* abounds around Newfoundland; they are killed on the ice with clubs, in thousands. The cries of a young seal are like those of a child in extreme agony, and are something between shrieks and convulsive sobbing. These cries seem to be the amusement of the young seals when left alone on the ice; and the same cry is used to express enjoyment or pain, fear or defiance. The young seal is of a dirty white colour. The common seal (phoca bitulina), is of a yellowish-grey or brownish, with yellow spots, becomes white from age, and is from three to five feet long. The hooded seal (phoca cristata) is of a dark grey colour, with many irregular shaped spots and blotches of considerable size, seven to eight feet long, with a piece of loose skin on it which can be inflated and drawn over the eyes, and is nearly ball proof. It has the power of distending its nostrils, which gives it a formidable appearance. The harp seal is so named from the old male animal having, in addition to a number of spots, a broad curved line of connecting blotches proceeding from each

shoulder, and meeting on the back above the tail, something like an ancient lyre. The female has not the harp; she leaves her young on the ice and returns from fishing occasionally to suckle them; the milk is of a thick creamy consistence, and of a yellowish-white colour. The "square flipper" seal is rarely seen off Newfoundland; it is said to attain a size of 12 to 15 feet.

Cetacea.—The whale, grampus, and porpoise abound. The true Greenland balæne or toothless whale, of which seven species have been observed, do not often visit the Newfoundland waters: they vary in size from 45 to 70 feet, and the quantity of oil yielded is in proportion to the longest blade of whalebone, one foot giving one gallon and a half, and 12 feet 21 gallons. The inferior jaw bone sometimes measures 25 feet. It has a black skin; the gray whale is longer than the above mentioned. The balænoptera, or finned whale, with a horny fin on the lower portion of the back, is sometimes more than 100 feet in length. The beaked whale is only about 25 feet long; it has pouches or folds of fat on its throat and belly. The broad-nosed whale attains a huge length. The cachelots, or whales with teeth in their lower jaw, have an immense head, which is frequently in size one-half or more than a third of the whole animal; the physeter species attains an almost incredible length; on good authority it has been seen 114 feet in length; the usual size is 60 feet. It feeds on the hump fish, cuttle, dog-fish, and even small shark; the toothless whale feeds on molluscs, or gelatinous matter. The toothed whale furnishes spermaceti, which is found below the nose or snout. The trumpo, blunt-headed, or New England cachelot, has an enormous head, the upper jaw has 18 teeth, is five feet longer than the lower; length of animal 60 feet; it is very ugly, bold, and swift, and opens its huge jaws in fight like the hippopotamus. It yields a very fine, pure oil, which is obtained in cells near the brain, and is procured by boring the skull. On the coast of Newfoundland, in the Gulf of St. Lawrence, and on the Labrador shore, cetacea of all sizes are seen, from the physeter malar, or great finned cachelot whale, with its huge back fin, like the mast of a ship, down to the porpoise. The whale fishing is now becoming an important branch of trade for the colony. The monadous or narwals, the unicorns of the deep, are furnished with a piercer or tusk, and called sword fish; some are single-

sworded, 13 to 16 feet long, others double sworded, 12 to 25 feet long. The Esquimaux value their flesh and oil as aperients. The sword grampus, a species of dolphin, has a singular scimitar-shaped high dorsal fin; long, bony, and broad at the base. He is about 30 feet in length, ferocious, has 90 cylindrical teeth, $1\frac{1}{2}$ inches above the gum, and a fierce persecutor of the whale and seal. In Sir R. Bonnycastle's volumes there is a detailed and very interesting account of the cetacea, of which tribe the author seems to have acquired much information in the Arctic and Northern Atlantic seas.

Fish.—The banks of Newfoundland swarm with almost every variety of the finny tribe, of which the smaller sorts serve as food for the omnivorous cod. "The incredible shoals of *lance*, a small, elongated, silvery, eel-like creature, the interminable armies of migratory herrings, the hosts of capelin which are met with in their several seasons, cause the seas to boil and glitter in their rapid paths, producing the effects of currents upon the bosom of the tranquil deep." The locusts that darken the air, in the countries subject to their devastation, are not to be compared in numbers to the periodical journeyers of the Newfoundland seas. The *capelin*, (*salmo arcticus*), which is the great object of attraction to the cod, whale, &c., is about seven inches long, with a slight, elegantly-shaped body, greenish back, and silver belly, and some of their scales tinged with red. The male fish has a rough fascia, beset with minute pyramidal scales, standing upright, like a pile of plush above the lateral fins. Sir R. Bonnycastle says, that when the female seeks the shore for the purpose of depositing spawn, she is taken between two of these ridged males, and they all three rush violently onwards, the compression excluding the ova: two, three, and even as many as ten have been observed thus glued together by these villous crests. The eggs are deposited among the smaller fuci and confervæ, on which they feed. The dorsal fin is in the middle of the back; tail forked; scales minute. In taste, it resembles the smelt. This beautiful little fish, in June, and early in July, crowds into the shores of Newfoundland in countless myriads to spawn. Wherever there is a strip of beach at the head of a bay, every rolling wave strews the sand with hundreds of capelin, leaping and glancing in the sun till the next wave sweeps them off and deposits a fresh multitude: the white foam, and the glit-

tering colours of the fish, form a beautiful sight.

Mr. Anspach, who resided in Conception Bay, thus describes the arrival of a capelin shoal, or shoal :—

"It is impossible to conceive, much more to describe, the splendid appearance, on a beautiful moon-light night, at this time. Then its vast surface is completely covered with myriads of fishes, of various kinds and sizes, all actively engaged, either in pursuing or avoiding each other; the whales, alternately rising and plunging, throwing into the air spouts of water; the cod-fish, bounding above the waves, and reflecting the light of the moon from their silvery surface; the capelins, hurrying away in immense shoals, to seek a refuge on the shore, where each retiring wave leaves multitudes skipping upon the sand, an easy prey to the women and children, who stand there with barrows and buckets, ready to seize upon the precious and plentiful booty; whilst the fishermen, in their skiffs, with nets made for that purpose, are industriously employed in securing a sufficient quantity of this valuable bait for their fishery."

There are several varieties of the cod-fish on the Newfoundland shores; the principal fish caught is like the *gadus morhua* of Linnaeus, or ash-coloured cod; the *gadus carbonarius* or coal cod (seyfish of Norway) is largely dispersed, and the best eating of the two; it sometimes weighs 20 or 30 pounds. The fish caught on the bank are supposed to be better than the shore fish. The bait used for the cod, when taken with hook and line, is the capelin; when the capelin leaves in August, the young squids or cuttle-fish are caught up for bait, and when their season is over, the autumnal, or "fall," herrings are used; shell-fish, both fresh and salted, is used for the hook. Sometimes food is so abundant, the fish will not bite; they are then taken with a jigger or plummet of lead, armed with hooks, and drawn quickly up and down in the water, by which the cod is attracted and struck with the hook as he swims round the jigger; this mode is deemed objectionable, as more fish are wounded than caught. In some places the cod is taken in nets or sieves. The cod fishing closes in September; the quantity one man may catch during the season is very great, as the fishers say they have the chance *every day* of catching five pounds worth of fish. A quintal of dry fish is made from about 300 weight of "green" or fresh fish, and the quintal is worth about 15s., consequently it would require a man to catch nearly a ton weight to produce a quantity of the value of £5: in other words he must catch 224 cod of an average weight of 10 pounds each, in one day. The wages are generally £20 for the summer, or five

or six active individuals club together and catch cod to the value of £100. Some families do not cure the fish themselves, but take it as it is caught to the stores of merchants, whose men cure it for the proprietors of the stores. The cod constitutes the wealth of Newfoundland; notwithstanding the myriads which have been taken by Europeans during the last two centuries, it seems as abundant as when the banks were first visited. So prolific is the fish, that the spawn of a single cod if unmolested, would, it is supposed, in a few years fill the ocean. Salmon fishing is followed during the summer by several families; the dog fish is caught for the sake of the oil contained in his liver; the herring fishery is increasing, and the capelin is used for the food of man, as well as for bait for the cod. Of 22 known kinds of mackerel only one frequents the arctic regions. The yellow mackerel, which abounds in the Gulf of St. Lawrence, is supposed to cross the Atlantic from the African coast. The gigantic mackerel or tunny fish is occasionally taken. Herrings appear in vast numbers. The mullet (*mullen barbatus* and *ruber*), frequent the coasts. The *lance* is a long thin fish like a sand eel; the sea on the banks sometimes seems alive with this little creature, which serves many other fish for food. The lakes and rivers in the interior contain excellent fish, so that the inhabitants possess at least abundance of this description of food, on which all the animals in the island, from the cow down to the domestic poultry, feed.

AGRICULTURE.—The governor, Sir G. Le Marchant, has devoted great attention to this subject; and his report to Earl Grey, in 1848, is very valuable. It shows that Newfoundland has not the inhospitable climate and barren soil which has long been supposed peculiar to the place:—

"It may be said that the cultivation of the soil made little or no progress in Newfoundland until after the peace with France in 1811. The sole occupation of the resident inhabitants was confined to the fishery; an opinion generally prevailed, that the soil and climate raised impassable barriers to agriculture. It was further considered, that the encouragement of settlement and agriculture, even if it were practicable, would be injurious to the interests of the fishery; in consequence, every obstruction and impediment was thrown in its way. It was an offence against the laws of the fishery to clear, to inhabit, or to cultivate the waste lands of Newfoundland. Before that period there may have been some few gardens for vegetables, and a few spots of land cleared for raising potatoes. Farming, as an occupation, or as a means of employment or subsistence, was unknown. The first relaxation was made in the olden

system regarding the land in 1815, by governor Sir Richard Keats; he was authorized to make small grants of land, limited from two to four acres. Many lots of ground, now so valuable in the vicinity of St. John's, were granted during his government. From 1818 to 1824, governor Sir Charles Hamilton, the first resident governor, made some larger grants of land, and on more favourable terms.

"Sir Thomas Cochrane commenced his government in 1825. Immediately on his arrival he entered warmly into the subject of the agricultural improvements of the colony; made liberal grants of land from 500 to 250 acres. During his government, the first main road that was opened in the island, the road from St. John's to Portugal Cove, was projected and completed. Much land was cleared, and very considerable progress made in agricultural improvement.

"His excellency Captain Prescott followed in his footsteps, he gave every facility and every encouragement in his power to the general clearance and cultivation of the land. Through his recommendation to Her Majesty's government, much of the obstructions that remained to the obtaining of land was removed, and it may be said, that during his government, hundreds of poor industrious persons were located on land which now affords a comfortable support to themselves and families. The large amount of appropriations, during his government, for the formation of roads, greatly facilitated the progress of agriculture; not only the margins of the various roads branching from St. John's, but likewise in Conception Bay, Trinity Bay, Bonavista, Ferryland, Prepassey, St. Mary's, Placentia, Burin, and in all the inhabited districts of the island, no matter where, a road was opened; cultivation and population was certain to follow in its course.

During the administration of his successor, Sir John Harvey, large votes were recommended to the Assembly for roads and bridges. These public improvements rapidly progressed, as a matter of course cultivation and settlement followed. The land, particularly in the neighbourhood of St. John's, doubled in value. Agriculture became a recognised and most important branch of industry, a source of employment and subsistence to a large portion of the people.

"At present it will be scarcely considered necessary to adduce arguments or proofs as to the capability of the soil of Newfoundland for agricultural purposes, as a general principle it may be safely laid down that in no case where due skill and industry have been employed, have they failed to repay the husbandman's toil. Farms have been successfully cultivated in the districts of St. John's, Trinity, Bonavista, Conception Bay, St. Mary's, Placentia, Burin, Fortune Bay. And in every part of the island, wheat, oats, barley, potatoes, turnips, have been produced of the best quality.

"It may be said without fear of contradiction that in no instance, when industry and skill have been used in clearing and cultivating the soil of Newfoundland, has it failed to make an ample recompense. The most successful cultivator is the man who works himself. The cultivators of small portions of ground were truly the pioneers, who were first in making inroads on the wilderness. The judicious expenditure of capital will also meet a profitable and certain return.

"When it is taken into consideration the difficulties and prejudices that the cultivator of the soil had to contend with, the surprise should be, not the

slow progress that agriculture has made, but that so much has been accomplished. Necessity, more than choice, drove the inhabitants to the cultivation of the soil. As long as the fisheries made such profitable returns, and enabled the fisherman to support himself and family for the whole year from the fruits of a few months' employment in the fishery, he never would voluntarily turn to the laborious task of clearing the wilderness. The unequal competition of the French and the Americans reduced the profits in the fishery; it scarcely paid its own expenses. The only alternative left to the inhabitants was either to emigrate or to cultivate the soil. Whatever proportion of the fisheries that remain to the British has been preserved by the auxiliary support which the inhabitants were enabled to obtain from the cultivation of the soil.

"The cost of grubbing up and cultivating the waste land of this country must necessarily vary much according to the quality and condition of the land itself and its locality. That in the vicinity of the town of St. John's has more of rocks and stones on the surface than in some other parts of the district, and the cost of grubbing, clearing rocks and stones, burning stumps and roots, ploughing, harrowing, and manuring for a crop cannot be safely calculated at less than £13 sterling per acre, out of which may be deducted the net value of a fair crop of oats, potatoes, or turnips, which the land will yield the first year from the manure and burnt ashes. In some other parts of the district land may be doubtless grubbed up and cultivated at much less expense, being comparatively free from stones, and requiring little labour previously to the plough being used. It may be observed that the land in this portion of the island is, generally speaking, of a light, gravelly nature, easy to work and cultivate, soon warming with the heat of the summer, and quick in forcing forward the crops when planted. On the other hand, it appears to require a liberal supply of manure to put it in condition, and from its porous nature, repeated applications of manure are desirable until the land is laid down to grass, which yields crops of hay, of great abundance, as also of excellent quality. When again ploughed, it is generally much improved in texture and quality, and will carry grain crops well, especially if a small supply of lime be harrowed into the surface, for this latter article is at present too dear to admit of the free use of it as in England. At no distant period it may be hoped we shall have plenty of lime brought from other parts of the country, where it exists in great abundance.

"The grain crops of last year, though in some instances sown late, all answered remarkably well. The governor was assured on authority that could be relied on, that on one of the farms in the vicinity of this town, two bushels and two gallons of beer barley were, on the 19th May, sown upon three-quarters of an acre of potato land, and from it were threshed 42 bushels of excellent quality, being at the rate of 56 bushels per acre. Of which 30 bushels were sold at 5s. currency per bushel for malting and brewing, and the crop paid the party better than any crop grown on an equal space of land for many years. Wheat has also been known on another farm in this neighbourhood to produce at the rate of 50 bushels per acre, and this is a heavy crop for any country. This large produce may be in a great degree attributed to the repeated applications of fish and other manures to the previous crops of potatoes.

"In the past year, 1796 acres of land have been sold, the price at auction averaging about 10s. per

acre. The number of separate grants, into which these lands were divided, amounted to 176. Large supplies of seed (wheat, barley, and oats,) have been imported by the government, as well as vegetable and various sorts of garden seeds; these will be distributed in the course of this spring amongst the cultivators of land in the colony; and a committee of gentlemen is appointed, to whom such distribution has been entrusted. In the hope of adding a stimulus and an encouragement to the further cultivation of the soil, as also of inducing the working farmers to avail themselves of these opportunities, prizes have been offered for the clearance and planting of new virgin land; as also for the best crops of wheat, barley, and oats.

"Two mills, adapted for the grinding of meal as well as grain, have likewise, with the assistance of government, been established; the one in this town, and the other in Conception Bay. By a steady perseverance on the part of the people in the prosecution of measures such as these, abundance and plenty will again be restored to this island, and the more general extension of agriculture will, I am confident, be attended with vast benefits to the present and future generations of Newfoundland.

"*Horticultural*.—It has been frequently remarked by strangers as well as residents, that the culinary vegetables grown here are not inferior to the best of their kinds in Europe, doubtless owing to the rapidity with which vegetation takes place, when the frigid temperature of winter is dispelled by the genial heat of summer weather, a change which, some seasons, occurs very suddenly. All ordinary garden vegetables are grown with as little trouble as in England. Among those most commonly cultivated are lettuce, endive, radish, asparagus, seakale, beets, turnips, cabbages, cauliflowers, peas, beans, both French and broad, all of which attain maturity with common care, although, in very few instances, have they much of that skill and good management bestowed upon them which, in gardens in England, appears almost a matter of course.

"Melons and cucumbers are grown every year in slight hotbeds, and the latter may be transplanted from the seed-bed to the open air, where they will generally produce abundantly. Turnips, cabbages, and all of the Brassica tribe, have, in the early stages, numerous enemies in the turnip-fly, caterpillars, &c.; but, independently of this, the climate and soil are fitted to produce large crops of them. It may be observed, that many of the perennial and other herbaceous plants of Britain bear the severity of the Newfoundland winter well, among which may be mentioned the polyanthus, pansy, and sweet William, also pinks and carnations generally; and among bulbous roots, all kinds of lily, even the white lily, tulip, hyacinths, &c., are rarely known to fail, though kept in the ground all winter.

"Of fruit trees, those of the more hardy kinds, and which produce their fruit at an early season, of course answer best. The climate is well adapted to gooseberries and currants of every variety, and they produce abundant crops almost invariably. The insect tribe alone seems inimical to them, and the trees are frequently divested of their foliage by caterpillars, except in low or moist situations, where these trees generally succeed best. Cherries of most kinds also bear the climate, and produce well; but the Kentish and Mayduke may be relied on as standing the climate, and bearing fruit as well as in England.

"With respect to apples, pears, and plums, the

early varieties only may be considered as well adapted. Plums of many kinds, and damsons have been grown for many years in Conception Bay, as well as in St. John's. The earliest kinds ripen, and the late sorts answer for culinary purposes. Raspberries and strawberries succeed as well here as in any country; they are, in fact, indigenous, and are found wild in considerable quantities. The cultivated kinds rarely, if ever, fail to yield fruit, and the strawberries are remarkable for abundant produce and fine flavour."

The honourable P. Morris, treasurer of Newfoundland, who has paid much attention to the affairs of the island, says, in reference to tillage—

"If agriculture has rapidly advanced in the worst and most sterile part of the island, and has been found most remunerative to those engaged in it, there can be no doubt of its succeeding in parts where the soil and climate are more favourable. The question does not rest on speculation or problematical opinions. Some of the finest and most productive farms are in successful occupation and cultivation in the various remote districts of the island.

"The best practical proof of the capabilities of the soil of Newfoundland for agricultural purposes is to be found in the census returns of 1836 and 1845.

"There is no means of accurately ascertaining the extent of land cultivated and annual produce before the year 1836, in which year, under a local Act, the following returns were made:—

RETURNS FOR 1836.

24,117 acres of land in possession.	
11,062½ ditto in cultivation, at £20 per acre	£221,250
1,559 horses, at £10	15,590
5,832 neat cattle, at £5	29,160
6,923 sheep, at 20s.	2,943
3,155 hogs, at 30s.	4,579
Goats not taken in the return of the year,	
say 4,000 at 20s.	4,000

£277,322

Annual Produce.

1,168,127 bushels of potatoes, equal to	
467,250 4-5 barrels, at 5s.	£116,812
10,310 bushels of grain, at 3s.	1,546
6,975 tons of hay, at £5	34,875
Increase of stock, calves, sheep, &c., &c. .	8,000
Milk, butter, &c., &c.	20,000
Vegetables, garden stuffs, &c.	10,000

£191,233

RETURNS FOR 1845.

83,435½ acres of land in possession.	
29,656½ acres of land in cultivation, at £20	£598,125
2,409 horses, at £10	24,090
8,135 neat cattle, at £5	40,675
5,750 sheep, at 20s.	5,750
5,077 hogs, at 30s.	7,615
5,791 goats, at 20s.	5,791

£682,046

Annual Produce.

341,341 barrels of potatoes, at 5s.	85,535
11,695 bushels of grain, at 3s.	1,754
11,013 tons of hay and fodder, at £5	55,065
Increase of stock, calves, sheep, &c. . . .	15,000
Milk, butter, poultry, eggs, &c.	30,000
Garden stuffs, vegetables, &c.	15,000

£202,354

Estimated value of Land in cultivation, and Agricultural Stock, showing the increase in nine years.—Estimated value of land in cultivation, and agricultural stock, in 1836, £277,675 10s.; estimated value of land in cultivation, and agricultural stock, in 1845, £677,946 10s. Increase in value of land in cultivation, and agricultural stock, in nine years, from 1836 to 1845, £399,371. Annual produce for the year 1836, £191,234 4s.; annual produce for the year 1845, £202,354 10s. Increase in annual value of produce, £11,120 6s.

"There must be some material error in the returns, either for the year 1836 or 1845, in respect to the produce. In the former year, with only 11,062½ acres of land in cultivation, the quantity of potatoes is given at 467,250,485 barrels. In 1845, with 296,561 acres in cultivation, there is given only 341,341 barrels, showing a deficiency of potatoes in the latter year to the extent of 125,909 barrels, which, valuing at 5s. per barrel, amounts to £31,975 5s. This, added to the estimated value of the annual produce for 1845, supposing the potato crop of that year to have equalled the produce for 1836, and there is no doubt whatever of it having far exceeded it, the annual value of agricultural productions for 1845 would amount to the sum of £233,329 15s.

"The produce may appear excessive in reference to the limited amount of land in cultivation; but it must be taken into account that a great portion of it is cultivated as garden ground, highly manured with fish offal. The produce is abundant, particularly of potatoes, the great object with all the small occupiers, who compose a vast majority of the whole. The estimate of the value of land, at £20 per acre, and of stock, without taking into account the land in occupation but not cleared, nearly £700,000, would startle those who have not turned their attention to

the subject. It is a curious fact, but not more curious than true, that the depression of the fisheries, and the consequent distress of the people of Newfoundland, have forced into existence, a capital, a permanent capital, almost equal in amount to the whole value of ships, boats, and fishery stock, in the palmy days of monopoly, at any period for centuries past. What has yet been done only forms a nucleus for further advancement; and, in all probability, before another quarter of a century passes over the heads of the present generation, the agricultural capital of Newfoundland, with other products of industry, will exceed many times the amount of any capital invested in the fisheries; and what is better, unlike that capital, it cannot, when increased in bulk, be removed by migratory birds of passage, to increase the stock and improve the condition of every other country but that in which it was produced."

The total number of acres of land granted is about 23,100; and sold, 11,528. The quantity ungranted cannot be correctly ascertained. The number of grants under 100 acres, in 1818, in the central district, was 50; acres, 947. Northern, 10; acres, 242. Southern, 15; acres, 152. The census of 1836 states the number of horses then in the island, 1,551; neat cattle, 6,136; sheep, 2,995; hogs, 3,261. The returns of produce are imperfectly given for the several districts.

The census of 1815 does not supply any information relative to the quantity of land under different crops; but it furnishes the following detail:—

District.	Acres under crop.	Acres un-mentioned.	Horses.	Horned Cattle.	Sheep.	Goats.	Oats.	Potatoes.	Hay.	Straw and Fodder.
							Bushels.	Bushels.	Tons.	Tons.
St. John's	19,099	41,078	771	1,307	228	1,125	3,316	48,313	3,469	814
Conception Bay	3,798	4,579	949	1,576	2,243	2,914	6,788	15,878	2,108	221
Trinity Bay	1,079	399	121	997	179	187	8	29,628	516	3
Bonavista Bay	612	196	52	505	243	680	272	25,971	356	1
Twillingate and Fogo	406	181	5	276	38	338	14	13,682	51	2
Ferryland	1,202	1,073	176	607	315	276	556	28,556	878	37
Placentia and St. Mary's	2,200	2,072	245	1,618	1,938	226	588	28,759	1,557	16
Burin	1,317	484	85	889	127	8	20	11,081	777	—
Fortune Bay	212	115	5	360	439	7	3	2,067	174	24
Totals	29,651	52,605	2,409	8,135	5,750	5,791	11,695	311,165	9,886	1,127

There is no established market for agricultural produce, and comparatively little is sold, the greater part being consumed by the growers. The average value of the crops is—oats, 2s. to 2s. 6d.; potatoes, 1s. 3d. to 1s. 9d.; turnips, 1s. to 1s. 3d. per bushel; hay, £4 to £5 per ton; outer fodder, 50s. to £3 per ton.

In 1776 a copper mine was discovered and worked for a short time near Shoal Bay, about 15 miles from St. John's. Some quarries of limestone have also been found; in one at Canada harbour, on what is called

the French coast, the stone is said to be of excellent quality.

Manufactures.—The number of vessels built at St. John's, in 1818, was 19; tonnage, 794. There are in the capital two corn mills, one saw and one bone mill, a gas manufactory, an iron foundry, and a brewery.

Prices of produce and merchandize in 1818.—Wheaten flour, per bushel, 35s. to 40s.; wheaten bread, per lb., 2d.; horned cattle, £8 to £12; horses, £15; sheep, 15s. in July, 35s. in January; goats, 20s. to 25s.; swine, 6d. per lb.; milk, per quart, 3½d. to

5*d.*; butter, fresh, 1*s.* 6*d.* to 2*s.*; ditto salt, 9*d.*; cheese, 5*d.*; beef, 5*d.* to 7*d.*; mutton, 6*d.* to 8*d.*; pork, 5*d.* to 7*d.* per lb.; rice, 25*s.* to 28*s.* per cwt.; coffee, 7*d.*; tea, 2*s.* per lb.; sugar, 35*s.* per cwt.; salt, 7*s.* 6*d.* to 10*s.* for 8 bushels; wine, per gallon, 7*s.* 6*d.*; brandy, 12*s.* 6*d.* to 11*s.* 6*d.*; beer, per hog-head, 60*s.*; tobacco, 7*d.* to 8*d.* per lb.

Wages for labour.—Domestic, £20 to £30 per annum; predial, £18 to £25; trades, 5*s.* to 6*s.* 6*d.* per diem.

Fisheries.—The official report of the governor, in 1818, on the subject, contains some interesting facts; and first with regard to the *seal fishery*:—

“The capture of the seal for the sake of its skin, and the oil that is produced from its fat, has been an object to the inhabitants from its earliest settlement, either by means of nets along its shores, or by vessels proceeding to the fields of ice that annually drift from the arctic regions. No date can be assigned when nets were first introduced; but the fishery by this means was carried on to some considerable extent on that part of the eastern coast which was ceded to the French at the close of the last war; but now very few establishments exist in Newfoundland; but there are still some of considerable extent on the coasts of Labrador, and in the straits of Belle Isle.

“The prosecution of the seal fishery by vessels is quite of a modern date, it being only 51 years ago that the first vessel sailed on this expedition, and it has in this short period arrived at its present extent, and now gives employment to near 11,000 men, actually engaged in catching the seal, and employs 340 vessels, of the aggregate burthen of 29,800 tons, new measurement. In 1793 a merchant of St. John’s commenced it by fitting out two small vessels, of about 45 tons each, which sailed the first week in April, and were very successful, one returning with over 800 seals, and the other with not quite so many.

“In the year 1796 four vessels sailed from St. John’s, and a few from Conception Bay; originally the vessels engaged in this fishery were of a small description, even open boats that were employed in the cod fishery of 30 tons, and even less, were sent out on this hazardous voyage, and a few rarely exceeded 50 tons, with a crew of 11 men, but they gradually increased in size, and the number of hands sent in them. In fact there was for a long period a prejudice of employing vessels over 60 tons, as they were considered too large and too heavy to prosecute the fishery successfully; this prejudice existed even so late as the year 1825, when two vessels of 120 tons each were built in Conception Bay expressly for the seal fishery. Both of these vessels were very fortunate the first time of going out; one bringing home in the spring of the year 1825, 6,666 seals, and the other 5,828 seals.

“This seems to have set the question as regarded size at rest, and from that period the old class vessels, of small tonnage, have been gradually superseded by those of a larger class. The vessels now engaged in the seal fishery are many of them over 115 tons, new measurement; or 140, old measurement; very few, indeed, now going out so small as 80 tons, new measurement.

“This fishery is now of very great importance to

the inhabitants of this colony; for besides employing 11,000 men in actually catching the seals, it gives employment to almost every class of mechanics, as well as common labourers, in manufacturing the seals, the value of which, in the spring of the past year, exceeded £214,000. Its great value may be well imagined, when the shortness of the period of this fishery is considered; these large sums being realized within the space of six weeks.

“The usual time of leaving for the ice is from the 1st to the 10th of March, if the vessels can get out, though formerly no vessel thought of leaving before the 25th of March to the 10th of April. The crews are shipped on shares, each man being directly interested in the quantity of seals caught; they pay the owner a sum varying from 10*s.* to 35*s.* for being allowed to proceed in the vessel, which is called berth-money; each man has to find a gun, or to pay the hire of one, and also has to find 25 sticks of firewood for fuel while on the voyage. The owner of the vessel receives one-half the seals brought home in the vessel for fitting her out, &c., with all necessary material; the other half is taken by the crew, and equally divided among them according to the number, the owner receiving the master’s share, who is paid by the owner 4*d.* to 6*d.* for each seal the vessel brings in, or 1*s.* to 1*s.* 3*d.* per cwt., according to the agreement that may be made between them previous to the commencement of the voyage.

“The vessels in Conception Bay are insured in mutual societies, that is, a certain number of owners enter into an agreement with each other that they will pay all losses that may occur to each other’s vessels during the season. There are two of this description now in Conception Bay, one at Harbour Grace, the other at Brigus. Each one has a secretary, who keeps the records of the society, for which he is paid 1*s.* for each vessel insured. There are also three surveyors to inspect the vessels previous to proceeding on the voyage, and to see they are properly equipped to encounter its dangers; they are paid a small sum for their services. The insurance in the Brigus society has been very light indeed, only five vessels having been lost since the year 1833, whereas the Harbour Grace society has been very unfortunate lately, the losses being very heavy. The vessels of St. John’s are insured in a society, and a certain premium is charged each vessel, according to her class.”

The fishing or catching of the seals is an extremely hazardous employment; the vessels are from 60 to 150 tons, with crews of from 16 to 30 men each, provided with firearms, &c., to kill the seal, and poles to defend their vessels from the pressure of the ice. In the beginning of March, the crews of the vessels in their respective harbours collect on the ice with hatchets, saws, &c., and cut two lines in the frozen surface, wide enough apart to allow their schooners to pass—an operation of great labour, as after the thick flakes have been sawn or cut through, they have to be pushed beneath the firm ice with long poles. The vessels then get out to sea, if possible, through the openings, and work their perilous way to windward of the vast fields of ice, until they arrive at one covered with the animals of which they are

in quest, and which is termed a seal meadow. The seals are attacked by the fishers, or, more properly speaking, hunters, with fire arms, or generally with short heavy batons, a blow of which on the nose is instantly fatal. The hooded seals sometimes draw their hoods, which are shot-proof, over their heads. The large ones frequently turn on the men, especially when they have young ones beside them, and the piteous cries and moans of the latter are truly distressing to those who are not accustomed to the immense slaughter which is attended with so great a profit. The skins, with the fat surrounding the bodies, are stripped off together, and the carcasses left on the ice. The winter tenants on the Labrador coast say the young seal is excellent eating. The pelts or scalps are carried to the vessels, whose situation during a tempest is attended with fearful danger; many have been known to be crushed to pieces by the ice closing on them. Storms during the dark night, among vast icebergs, can only be imagined by a person who has been on a lee shore in a gale of wind; but the hardy seal hunters seem to court such hazardous adventures.

In 1834 the number of vessels employed in the seal fishery was 353, of which 120 were from St. John's. The number of seals caught was: in 1831, 744,000; in 1832, 523,000; in 1833, 438,000; in 1834, 401,000.

Number of Vessels sailing for the Seal Fishery, Spring, 1847.

Districts.	Vessels.	Tonnage.	Men.
St. John's	95	9,353	3,215
Brigus	66	5,010	2,111
Carbonear	54	4,631	1,672
Harbor Grace	51	5,081	1,681
Ports to the Northward .	74	5,803	2,123
Total	340	29,881	10,805

Number of Seals caught, Spring, 1847.

Fishing Stations.	Seals caught.
Manufactured in St. John's	331,270
Manufactured in Conception and Trinity Bay	110,910
Total number caught	442,180
Estimated value of seals caught, Spring, 1847	£214,175

"Cod Fishery."—The extraordinary abundance of cod fish on the banks and shores of Newfoundland was speedily ascertained after the discovery of the island in the year 1479. The fishery in 1626 was rapidly growing into importance, and at that time

the island began to supply the demand in Spain and Italy. At the close of the late war the fisheries rose to a pitch of prosperity quite unprecedented, the exports in the year 1814 amounting to £2,831,538. When, however, peace was restored, the British government conceded to France her extensive rights of fishing exactly as they stood at the commencement of the war; and now, owing to the large bounties with which that government supports and encourages their fisheries, we are obliged to compete with them on very unequal terms in the supplying of foreign markets, so much so that the British Bank Fishery has ceased to exist, and the fisheries have dwindled down to an open boat in-shore fishery, and even that is year after year getting worse, and has ceased to give the remunerative employment to those engaged in it, as was the case in bygone years.

"The cod fishery opens at the beginning of June, and lasts till about the middle of October, and may be said to form the staple occupation of the inhabitants of this colony; it is prosecuted by the planters and their assistant fishermen, who form one of the two classes of this community; they live under the control and influence of the other class, the merchant, on whom they are solely dependent for the supplies and requisite means for pursuing their calling.

"By the census of 1815 the planters, fishermen, and shoremen amounted in number to 18,503 persons, and their boats, which are divided into three classes according to the burthen of fish they can carry, amounted to 10,089; the divisions being—8,092 boats, carrying from 4 to 15 quintals of fish; 1,025 boats, from 15 to 30 quintals; and 972 boats, from 30 quintals upwards.

"The quantity of dried cod fish exported in the year 1847 was 837,973 quintals, the value of which may be estimated at £189,940. The liver of the cod yields a large quantity of oil, which is extracted from it by natural heat, no other preparation being necessary than merely putting it into casks, and when it is fully decayed drawing off the oil. A quintal of good fish will yield more than a gallon of oil, but the produce of the season is not more than 80 gallons to 100 quintals of fish. The quantity of cod oil exported in the past year was 2,369 tuns, the value of which may be estimated at £60,320.

There are, as above stated, an immense number of boats of different descriptions engaged in the shore fishery; viz. punts, skiffs, jacks, or jackasses, western boats, and shallops, employing from one to seven men each, according to their size, and the distance they may have to sail before they reach their respective fishing grounds. The punts and small boats are generally manned by two persons, and occupied in fishing within a very short distance of the harbour, or circles to which they belong; the skiffs, carrying three or four hands, proceed to more distant stations, sometimes twenty or thirty miles; the western boats are larger than skiffs, and usually fish off Cape St. Mary's, off the entrance of a bay so named; the shallops are still larger craft, but now almost obsolete: some of this latter class have been known to admeasure 50 or 60

tons each. The punts and skiffs, constituting what is termed a "Mosquito fleet," start at the earliest dawn of day, and proceed to the fishing grounds, when the cod are expected in great abundance, for at certain seasons they congregate and swim in shoals, and are not unfrequently as capricious in their resort as the winds which are said to influence their movements: these boats generally land their cargoes at the "stage" at least once a day, usually in the evening, except it be in the height of the season, during capelin time, when they may occasionally load twice a day; the western boats and shallops split and salt their fish abroad, and return to their respective harbours when they may have expended all their salt, or loaded their craft.

The *stage* is erected on posts, and juts out into the sea, far enough to allow the boats to come close to its extremity, for the ready discharge of their cargoes; it is generally covered over, as the rain will injure the fish, and on the same platform is the salt house, with the benches for the *cut-throat*, *header*, *splitter*, and *salter*, the two latter having in in point of wages the precedence, and the two former being on a par.

Having thus explained the method of cod-fishing, it remains only to describe the manner of curing. Each salting-house is provided with one or more tables, around which are placed wooden seats and leathern aprons for the cut-throats, headers, and splitters. The fish having been thrown from the boats, a man is generally employed to pitch them with a pike from the stage upon the table before the cut-throat, who rips open the bowels, and having also nearly severed the head from the body, he passes it along the table to his right-hand neighbour, the header, whose business is to pull off the head, and tear out the entrails; from these he selects the liver, and in some instances the sound; the head and entrails being precipitated through a trunk into a flat-bottomed boat placed under the stage, and taken to the shore for manure; the liver is thrown into a cask exposed to the sun, where it distils into oil, and the remaining blubber is boiled to procure an oil of inferior quality, and the sounds, if intended for preservation, are salted. After having undergone this operation, the cod is next passed across the table to the splitter, who cuts out the back bone, as low as the navel, in the twinkling of an eye.

With such amazing celerity is the ope-

ration of heading, splitting, and salting performed, that it is not an unusual thing to see ten codfish decapitated, their entrails thrown into the sea, and their back bones torn out, in the short space of one minute and a half. The splitter receives the highest wages, and holds a rank next to the master of the voyage; but the salter is also a person of great consideration, upon whose skill the chief preservation of the cod depends.

For the next process, the cod are carried in hand barrows to the salter, by whom they are spread in layers upon the top of each other, with a proper quantity of salt between each layer.

In this state the fish continue for a few days, when they are again taken in barrows to a square flat wooden trough (commonly called the *ram's horn*, supposed to be a corrupt term from the French verb *Rincer*, full of holes, which is suspended from the stage head in the sea. The washer stands up to his knees in this trough, and rubs the salt and slime off the cod with a soft mop. The fish are then taken to a convenient spot, and piled up to drain; and the heap thus formed is called a "water-horse." On the following day or two the cod are removed to the fish flakes, where they are spread in the sun to dry; and from thenceforward they are kept constantly turned during the day, and piled up in small heaps called faggots at night. The upper fish are always laid with their bellies downwards, so that the skins of their backs answer the purpose of thatch to keep the lower fish dry.

By degrees the size of these faggots is increased, until at length, instead of small parcels, they assume the form of large circular stacks or piles; and in this state the cod are left for a few days, as the fishermen say, to "sweat." The process of *curing* is now nearly complete, and the fish exposed one or twice to the sun are afterwards stored up in warehouses, lying ready for exportation.

There are three qualities of cured codfish in Newfoundland. They are distinguished by the titles of *merchantable fish*, *Madeira*, and *West India fish*. Merchantable fish are those cured in the best possible manner, and having no apparent defect: *Madeira* are those having some slight bluish on the face, occasioned by an undue quantity of salt, or being sun-burnt; *West India* having, in addition to the defect of the *Madeira*, some cracks in the middle, or broken at the fins.

Merchantable fish are generally shipped for the Spanish, Portuguese, Italian, and South American markets. Madeira and West India fish are supplied to the West Indies, and of late years a considerable quantity has been annually exported to the southern and western counties of Ireland. The west of England also consumes no unimportant quantity of salted cod annually. Madeira is 1s. a quintal under Merchantable, and 1s. 6d. more than West India.

It will be evident, when the foregoing statements are examined, that the cod fisheries of Newfoundland are to England more precious than the mines of Peru and Mexico; and, in truth, if we consider the vast quantities of fish annually drawn from the banks and adjacent coast, it will be found that as the mere representative value of gold, their worth far exceeds that of the precious metals, to say nothing of the importance of the subject in a maritime, commercial, and political point of view.

"Herring Fishery."—Though the shores of Newfoundland swarm with herrings from March to December, yet the curing of these valuable fish has been in a certain degree totally neglected, though there is no country in the world better adapted for prosecuting this fishery with success. It is the opinion of many persons well versed in the trade, that if proper attention was paid to it, and more care used in curing them than there is at present, in a few years the fishery would rise to such an importance, as not merely to be an auxiliary to the cod fishery as it is at present, but that it would almost rival it. In the past year the number of barrels exported was 9,907, and their value may be estimated at £5,111.

"Salmon Fishery."—The salmon fishery has been carried on in this country from its earliest discovery, and nearly to the same extent as it is at present. The export of them has ranged from 2,500 to 5,000 tierces of 300 lbs. each for the past 50 years, though that is not near half the quantity caught, as a great deal of salmon is shipped at the Labrador and parts of Newfoundland, the accounts of which do not pass through the Custom House, being sold generally to American traders, who buy them loose from 18s. to 25s. per 100 lbs. The number of barrels exported in the past year was 4,917, the value of which may be taken at £9,782.

The fisheries employed and produced as follows:—

Years.	Employed.			Produce.		
	No. of Boats.	Tons.	Men.	Quintals of Fish.	Tons of Train Oil	Tons of Seal Oil.
In 1820	107	5,796	275	810,971	1,187	2,219
" 1821	756	13,512	10,799	No Returns.		8,764

The quintal of fish was then estimated at 8s. to 12s.; train oil at £18 to £20 per tun; seal ditto, £21 to £25.

The following tables, exhibiting a com-

parative statement of the quantity and value of the staple articles of produce exported in three years, will best show the items in which this deficiency occurs:—

Quantity.

Years.	Dried Fish.	Oils.	Seal Skin.	Salmon.	Herrings.
	Quintals.	Tons.	Number.	Tierces.	Barrels.
1845	1,000,233	8,670	352,202	3,545	20,903
1846	879,015	7,507	265,169	5,201	12,119
1847	837,973	8,624	436,831	4,917	9,907

Value.

	£	£	£	£	£
1845	596,990	243,646	40,123	12,794	11,234
1846	504,008	182,974	29,500	10,598	6,876
1847	489,940	229,185	46,280	9,782	5,111

The following abstract of a report on the French fisheries in Newfoundland, prepared by direction of the collector of her majesty's customs in Newfoundland, is worthy of consideration:—

"The five years' average of fish taken, say 1831 to 1835 inclusive, at the *French shore*, on the banks and in the neighbourhood of St. Pierre and Miquelon, did not exceed 300,000 quintals, which, in 1835, was thus disposed of:—27,000 was sent to Spain, Portugal, and Italy; 40,000 nearly was sent to the French colonies in the West Indies; 170,000 consumed in France; and 63,000 sent to France in a green state and re-exported; total, 300,000 quintals.

"The amount of premiums, drawbacks, and bounties, granted in support of the French fisheries in 1835, was £883,000 sterling, or nearly 20,000,000 francs. Premiums from 100 to 500, and, in many instances, so high as 1,000 francs a man, were granted. The number of fishermen employed was 6,200.

"The bounty on fish re-exported from France to the French colonies in the West Indies, was 40 francs, 33s. 4d. a quintal. It was shortly after that period reduced, and now remains at 24 francs. On fish sent direct to foreign ports in the Mediterranean a bounty of 12 francs (10s.) is paid; and on re-exportation from France to foreign ports, or in crossing the frontier by land into Spain, 10 francs, 8s. 4d. The largest premium granted a French fisherman does not at present, in any instance, exceed 150 francs.

"In the year 1845 the number of French vessels which arrived at St. Pierre was 197; tons, 28,750; foreign vessels arriving at St. Pierre, 1845,—119; total arriving at St. Pierre, 316; value of cargoes, £19,538.

"The number of French vessels engaged fishing on the Banks and baited at St. Pierre 1845, 104; 16,750 tons; 2,601 men.

"The quantity of fish taken by French vessels on the Banks *about*, and baited at St. Pierre in 1845, was 208,900 quintals; caught in the neighbourhood of St. Pierre and Miquelon, 48,000; total, 256,900 quintals.

"The fish taken on the French shore is not included in the above quantity of 256,900 quintals; but it will be seen that the fishery at St. Pierre in 1845, was only 13,100 quintals short of the whole catch, including the French shore, in 1835.

"Of the last-mentioned quantity (18,000 quintals) taken in the neighbourhood of St. Pierre and Miquelon,

nearly one-half was taken on the British fishing-ground.

"The catch, as regards the fishery at St. Pierre, 1845, was thus disposed of:—48,000 were sent direct to the French colonies in the West Indies; 119,000 consumed in France; 68,000 sent to France in a green state, and re-exported; and 31,900 to Spain, Portugal, and Italy: total, 256,900 quintals.

"The quantity of herrings supplied the French, 1845, and used as bait on the banks:—

" Say 25 vessels, averaging each 110 hrls. = 2730	
" 25 " " " 100 " 2500	
" 25 " " " 80 " 2010	
" 29 " " " 69 " 2000	

104 vessels. Total . 9270 hrls.

"The quantity of capelin taken to the Banks and used as bait, is, as compared with herrings, in the proportion of a hog-head to a barrel—one hog-head of capelin being equivalent to one barrel of herrings; thus the quantity of capelin consumed by the French on the Banks in 1845, was 9,270 hhdls., or 20,858 barrels, to which must be added 4,000 barrels used on the shore fishery, making in the whole 24,858 barrels.

"For many seasons past, until 1846, the quantity of capelin annually supplied to the French islands by our fishermen, was not less than 20,000 barrels. Up to the first of July last, capelin was in abundance at St. Pierre and Miquelon; a very unusual circumstance, which is attributed to a prevalence of southerly and easterly winds. It was not therefore in demand at St. Pierre up to that date, and subsequently from our being in the neighbourhood of Lameline, not more than 300 hhdls. were conveyed to St. Pierre from our shore. The consequence was, four or five of their first-class Bankers were entirely deprived of bait, and I am informed that they were only enabled

to proceed to the Banks late in July on obtaining a supply of squids from our people.

"The sums paid for bait at St. Pierre in 1845, was, for herrings, £6,350, and for capelin, nearly £5,000. The former cost on an average 15s., the latter 5s. per barrel; and not less than £2,800 was paid for firewood; the quantity sold was 3,200 cords, at 17s. 6d. per cord. These amounts, making in the whole £13,750, were mostly paid in cash, and the greater part of them eventually expended at St. Pierre in the purchase of dutiable articles. Along the line of coast extending from Burn to Harbour Britain, a distance of 100 miles and upwards, there is not at present a single mercantile establishment."

Commerce.—The trade of Newfoundland, for the reasons stated by several authorities, namely, French and American competition, has not of late years increased. The following table will serve as a comparison between the past and present trade of the colony:—

Exports in Years.	Quintals	Barrels	Kegs.	Oil. Tuns.	Seal Skins.
Ave. of 1790, 1, 2	656,800	6,276	—	1,891	—
Ave. of 1798, 9, 1800	382,881	2,223	—	2,131	—
1805	526,380	5,876	—	—	—
1810	—	—	—	—	—
1815	1,245,808	5,380	1,892	8,225	111,371
1820	899,729	4,913	20,926	8,224	221,334
1825	973,464	3,796	6,680	7,806	221,510
1830	760,177	1,799	3,966	12,371	539,342

In 1829 the imports were valued at £819,399, and the exports at £690,309. The following is a comparative statement of the staple articles exported from 1838 to 1843:—

Years.	Dried Fish.		Oils.		Seal Skins.		Salmon.		Herrings.	
	Quintals.	Value.	Gallons.	Value.	No.	Value.	Tierces.	Value.	Barrels.	Value.
1838	724,515	£484,649	2,173,634	£249,128	375,361	£30,474	4,408	£13,510	15,276	£10,723
1839	865,370	508,157	2,224,262	245,269	437,501	46,336	2,922	11,692	20,806	15,810
1840	915,795	576,245	3,206,583	305,197	631,385	39,408	3,396	12,939	14,686	9,636
1841	1,009,725	605,014	2,673,574	266,832	417,115	29,961	3,642	12,302	9,965	6,361
1842	1,007,980	561,950	2,262,031	233,313	344,683	23,290	4,715	13,678	13,839	7,119
1843	936,202	532,194	3,111,312	335,975	651,370	40,197	4,058	12,216	9,649	4,570

Imports and Exports in 1848:—

Countries.	Imports.		Exports		Shipping.	
					In.	Out.
	£	£	£	£	Tons.	Tons.
Great Britain	276,769	339,647	27,952	17,257		
West Indies	2,496	55,611				
B. N. America	127,060	42,251	41,899	67,504		
Elsewhere	7,512	8,596				
United States	229,279	16,268	19,848	4,653		
Foreign States	126,512	375,148	35,156	38,051		
Total	769,628	837,551	125,155	127,365		

Total value of Trade for the last four years.

	1845.	1846.	1847.	1848.
Imports	801,330	802,247	843,409	769,628
Exports	939,436	759,103	806,565	837,581

In 1816–47 the colony was afflicted with a series of calamities; short fisheries, failure of the potato crop, the destruction by fire of a great part of the capital, a hurricane which devastated the coasts on the 19th of September, and the reaction on America of commercial distress in Europe. These disasters sufficiently account for the check given to commerce.

The imports from Great Britain, include bread and biscuit, 115,303 cwt., valued at £23,916; candles, value £2,046; coals, £3,595; cordage and cables, £10,964; cotton manufactures, £35,582; flour, £1,766; Geneva, 1,289 gallons; gunpowder, £1,100; hardware and cutlery, £7,940; iron, bar, &c., £7,113; lead, bar and sheet, £1,748; lead shot, £1,368; lead paints, £1,712; leather

manufactures, £32,234; linen manufactures, £5,016; sails, 9,509; lines and twines, £13,118; nails, £3,160; rum, £1,124; salt, £8,997; silk manufactures, £5,850; slops, £1,339; soap, £1,397; stationery, £1,176; building-stone, £1,793. These are some of the items of imports from England.

The exports of dried fish in 1848 were in value £191,124, of which £30,169 came to Great Britain; £51,807 to the West Indies; £26,273 to British North America; other colonies, £5,820; to United States, £7,592; and to foreign states, £369,963. The value of seal oil exported was £160,909; of cod ditto, £87,622; salmon, £6,597; seal-skins, £50,126.

The fish exported in 1848, was, of dried cod, 920,366 quintals, value £191,924; core, 18, £10; salmon, 3,822 barrels, £6,597; herrings, 13,872 barrels, £7,644; capelin, cod sounds, and tongues, 758 packages, £232; oils, 10,704 tuns, £253,472; seal-skins, 521,601, £58,126. Total value of fish, oil, and skins, £818,305. The consumption of fish in the colony is estimated at $1\frac{1}{2}$ to 2 quintals for each mouth of the population, which raises the quantity of the fish caught from 140,000 to 200,000 quintals.

In 1836 the number of fishing boats belonging to the different places in Newfoundland was:—

Districts.	Under 15 Quintals.	15 to 30 Quintals.	Upwards of 30 Quintals.
St. John's	700	43	13
Conception Bay	1157	46	109
Trinity Bay	798	168	11
Bonavista Bay	181	197	51
Fogo and Twillingate	737	36	6
Ferryland	370	139	77
Placentia and St. Mary's	297	128	90
Burin	169	55	138
Fortune Bay	632	21	19
Totals	5141	833	511

Ship building is carried on in Newfoundland. The number and tonnage of those built were:—in 1837, 26 vessels, 1,170 tons; in 1838, 28 vessels, 1,652 tons; in 1839, 16 vessels, 811 tons; in 1840, 31 vessels, 1,659 tons; in 1841, 33 vessels, 1,683 tons; in 1842, 32 vessels, 1,553 tons; in 1843, 24 vessels, 1,192 tons.

Colonial duties levied in Newfoundland in 1844:—On bread, 3*d.* per cwt.; flour, 1*s.* 6*d.* per barrel; oatmeal, 1*s.* 6*d.* per barrel; coals,

1*s.* per ton; salt meat, 1*s.* 6*d.* per cwt.; ale and porter, and household furniture, 10 per cent.; wine in bottles, 2*s.* 6*d.*; all other wines, 1*s.* 6*d.*; brandy and gin, 2*s.* 6*d.*; rum and whiskey, 1*s.* 3*d.* per gallon; apples, 1*s.* 6*d.* per barrel; molasses, $1\frac{1}{2}$ *d.* per gallon; refined sugar, 5*s.* per cwt.; tea, 3*d.* per lb.; tobacco, 2*s.* per lb.; timber, 2*s.* 6*d.* per M. ton; timber and scantling, 1*s.* 6*d.* per ton; shingles, 1*s.* per M.; salt implements and materials for fisheries, horses, cattle, sheep, pigs, corn, seeds, vegetables, manures, books, unrefined sugar, coffee, coin, and bullion, *free of duties*; non-enumerated articles, 5 per cent.

I have described somewhat fully the history and present condition of this important colony, whose annals (in themselves fraught with much interest,) are closely connected with the maritime supremacy of Britain, since on its shores have been reared a skilful and hardy race of seamen, employed in a traffic, which, during the last two hundred and fifty years, has furnished fish and oil to the value of about £120,000,000 sterling. It is impossible to review, without deep regret, the mistaken and most injurious policy so long pursued with regard to Newfoundland. Its brave and loyal, but rude, uncivilized, and mis-governed people, deserved, and had their real position been understood, would most certainly have received very different treatment from the home government; but the mis-representations of a monopolizing party, aided by the infrequency and difficulty of communication, except through an interested medium, prevailed, and Newfoundland with its commanding position, fine harbours, and salubrious climate, was tabooed as a barren and inhospitable island, totally unfit for the habitation of man, and capable only of maintaining a few fishing stations. These misapprehensions are now passing away, the truth, unwarped by prejudice and unvarnished by exaggeration, is gradually becoming understood, and the results of an improved and improving system of legislation, are shewn in the progress of this ancient and truly British colony. The French and American encroachments, on the privileges granted by the treaty, have been already adverted to; any further comment would be, perhaps, ill-judged.

BOOK VI.—HUDSON'S BAY TERRITORIES.

GEOGRAPHICAL POSITION, AREA, HISTORY, CONSTITUTION, AND WORKING OF THE HUDSON'S BAY COMPANY; PHYSICAL ASPECT, FORTS AND STATIONS, POPULATION, &c.

THE north-west territories of British America, exclusive of Canada, extend from the Pacific Ocean and Vancouver's Island along the parallel of the 49th degree of north latitude, near to the head of Lake Superior, and thence in a north-easterly direction to the coast of Labrador and the Atlantic. The Arctic Ocean forms the northern boundary. The whole region between the meridians of 55° and 141° of west longitude is included, excepting a strip of Russian territory on the Pacific Ocean, between 54° and 60° north latitude, of ten leagues in breadth, following the sinuosities of the coast.

It is extremely difficult to form anything like a correct estimate of the dimensions of this vast region, from the number and extent of its inland seas. Its length is stated by Murray at about 2,600 miles, and its breadth at nearly 1,460 English miles. Its area is calculated by Arrowsmith at 3,060,000 square miles.

HISTORY.—In 1517 Sebastian Cabot, while in search of the north-west passage, penetrated into Hudson's Bay, but without discovering it to be an enclosed sea. In 1585 Davis, whilst prosecuting a similar investigation, discovered the strait since called by his name. In 1610 Hudson sailed through the strait, and into the bay named from him Fretum Hudson, "the Hudson Sea;" but being compelled to winter there, extreme cold and severe suffering led to a mutiny among his crew, and he, with several of his adherents, was exposed in a small boat, and doubtless perished; a few only of the sailors returned to tell the tale. In 1616 Baffin traced the outlines of another great bay, to which his name was given. Subsequent voyages, made by several English navigators, proved that the vast expanse which had been taken by Hudson and others for the open sea, had no other outlet but the strait through which it had been entered, while its shores

were found to be tenanted by furred animals of great value. The first idea of forming a settlement was suggested by a Frenchman, named Grosseliez, to his own government, but being coldly received he obtained, through the British ambassador, an interview with Prince Rupert, before whom he laid his plan. The prince, entering warmly into the project, by his assistance, a vessel was fitted out, which, in September, 1638, reached a river then called Nemiseo, to which the adventurers gave the name of Rupert. They wintered there with less suffering and difficulty than had been anticipated, and on their return made so favourable a report, as to induce Prince Rupert, the Duke of Albemarle, Earl of Craven, Lord Ashley, and others, to form a company and commence a traffic in furs, for which purpose £10,500 was subscribed. A charter of incorporation was granted by Charles II., giving to the company full possession of

"All the lands and territories upon the countries, coasts, and confines of the seas, bays, lakes, rivers, creeks, and sounds, in whatsoever latitude they shall be, that lie within the entrance of the straits, commonly called Hudson's Straits, that are not already actually possessed by, or granted to any of our subjects, or possessed by the subjects of any other Christian Prince or State."

The charter proceeds to grant further,

"The whole and entire trade and traffic to and from all havens, bays, creeks, rivers, lakes, and seas, into which they shall find entrance or passage by water or land out of the territories, limits, or places, aforesaid; and to and with all the natives and people inhabiting, or which shall inhabit within the territories, limits, and places aforesaid; and to and with all other nations inhabiting any the coasts adjacent to the said territories, limits, and places which are not already possessed as aforesaid, or whereof the sole liberty or privilege of trade and traffic is not granted to any other of our subjects."

A settlement was immediately formed by the company on Rupert's river. In 1674 stations were established on Moose river, and a few years after on the Albany, to

which were soon added two more on the Nelson and the Severn. These vigorous measures awakened the French court to a sense of their neglect, and Grosseliez, already detached from the English service, was sent out, in 1682, to found a factory on Hayes River, which he succeeded in doing, and also in surprising the British one on the Nelson. From this time hostilities were of frequent occurrence between the English and French settlers, yet notwithstanding we find from a document laid before parliament in 1812, that the profits of the company must have been very large, since, notwithstanding losses sustained by the capture of the company's establishments by the French in the years 1682 to 1688, amounting to £118,014, they were enabled to make a payment to the proprietors in 1684 of 50 per cent.; another payment in 1688 of 50 per cent.; and a further payment in 1689 of 25 per cent. In 1690 the stock was trebled without any call being made, besides affording a payment to the proprietors of 25 per cent. on the increased or newly-created stock; in the years 1692, 1694, 1696, and 1697, the company incurred loss and damage, to the amount of £97,500, by other captures of their establishments by the French.

These establishments were restored to the company by the peace of Utrecht in 1713, who in 1720 were enabled again to treble their capital stock with only a call of 10 per cent. on the proprietors. The forts were strengthened and new stations formed in the interior. In 1749 a question arose in parliament concerning the rights of the company, which was decided in their favour. In 1782 several of their establishments were taken by the French, under La Perouse, nevertheless their traffic appears to have been very profitable until their rights of territory and trade were invaded by a rival association called the North-West Company, whose fierce competition caused much animosity, and even bloodshed, proved very injurious to the Indians, and destructive to the fur trade. In 1813 an agricultural settlement was founded by Earl Selkirk on the Red River, which suffered greatly from the incursions of the Indians incited by the North-West adventurers, who in a wild foray slew Governor Semple, the head of the British settlement.

When the partnership of the North-West associates was about to expire in 1821, three gentlemen in London, Edward Ellice, Esq., and W. and S. McGillivray, who repre-

sented in England the interests of the wintering partners of the North-West traders in America, offered to merge their interests in those of the Hudson's Bay Company: this was assented to, and in 1821 an act of Parliament was passed, under which the Crown granted to the Hudson's Bay Company, and to the three representative agents of the North-West Association in London and Montreal, a licence of exclusive trade for 21 years, in what were termed the "Indian territories," that is, over those tracts which might not be included in the grant of Charles II., and also over those tracts which, by mutual consent, were open to the subjects of England, and to those of the United States. The three North-West Association agents merged into the Hudson's Bay Company; the exclusive trading licence was surrendered in 1838, and, after careful examination and investigation, on 30th May, 1838, the crown granted, under covenant, another licence for 21 years of exclusive trade over the aforesaid Indian and neutral territories. These licences which extended "to those parts in North America beyond the limits of the charter which the Hudson's Bay Company at present enjoy," (see Board of Trade letter, 2nd of June, 1837, in Parliamentary papers of 8th August, 1842,) in nowise invalidated or questioned the rights possessed by the Hudson's Bay Company, under the Royal Charter of 2nd May, 1670, which has been recognised by various treaties and acts of Parliament.

Previous to the recent Oregon treaty, the Hudson's Bay Company had formed settlements on the Columbia River, and some of its servants and retired officers established an agricultural farm at Puget Sound, south of the 49th parallel, and within the present American territories; but the Oregon treaty expressly guaranteed the "possessory rights" of the Hudson's Bay Company in the United American States, and of course thus acknowledged the possessory rights of the Hudson's Bay Company north of the 49th parallel. In the trading licence of 1838, the crown reserved to itself the right of establishing any colony in the territory over which the licence extended: hence the power now exercised by the crown of disposing of Vancouver's Island, by vesting it in the Hudson's Bay Company under certain conditions.

Constitution and Working of the Hudson's Bay Company.—The Hudson's Bay Company, according to the printed list of 17th

November, 1847, consists of 239 proprietors, representing a capital stock of £100,000. The affairs of the corporation are managed by a governor, deputy-governor, and committee of seven, elected by proprietors holding each not less than £900 stock for six months previous to voting, except such stock be acquired by bequest, marriage, &c. Of the 239 proprietors, 55 have more than two votes. Each member of the committee must hold not less than £1,800 stock. The charter of 1670 prescribes the mode of election, oaths to be administered, &c.; authorises the governor and company to make laws and ordinances for the good government of their territory, and the advancement of trade, and to impose penalties and punishments not repugnant to the laws of England. The company has, accordingly, established, at the Red River Settlement, at a considerable expense, a governor, council, recorder, sheriff, coroner, &c., for the due government of the affairs of the Assiniboia or Red River territory, and for the careful and legal administration of justice throughout Rupert's Land.

Trial by jury, although not enjoined by the Royal Charter of 1670, was introduced into the Red River settlement by Sir George Simpson, under the directions of the Hudson's Bay authorities in England. It appears that crime is comparatively rare in Rupert's Land, and that justice is effectively and mercifully administered under the same safeguards that exist in England.

The fur and peltry traffic of the Company is regulated by a Deed Poll, bearing date 26th March, 1821, on the junction of the North-West traders with the Hudson's Bay Company; and by another Deed Poll, bearing date 6th June, 1834, "for ascertaining the rights and prescribing the duties of the chief factors and the chief traders, and for conducting the trade." The Deed Poll of 1821 was a co-partnership for 21 years between the Hudson's Bay Company and the representatives of the North-West Company, on the basis that each should provide an equal capital for carrying on the trade. The expenses of establishments in England and America to be paid out of the trade, and no expense relating to colonization, or to any business separate from trade, to form a charge on the concern. Profits were divided into 100 shares, of which 40 were divided between the chief factors and chief traders, according to profit and loss; if a loss occurred in one year on these 40 shares, it was

to be made good out of the profits of next year. Inventory, general account, and tariff of goods, to be made out yearly on 1st June; and if profits were not paid to parties within 14 days after 1st June, interest allowed of five per cent.

The governor and company appointed governors to preside at councils of chief factors, who carried into effect all acts authorized by the charter. Senior chief traders assisted in forming council, if there were not seven chief factors present; each member of council had a vote; two-thirds formed a majority for decision. Three chief factors must be present, besides the president, to constitute a council. By the Deed Poll of 1821, there were 25 chief factors and 28 chief traders appointed, who were named in alternate succession from the Hudson's Bay Company, and North-West Company's servants.

The servants of both companies were placed on an equal footing; the 10 shares out of the 100, were sub-divided into 85 shares, and each of the 25 chief factors was entitled to 2 shares or $\frac{2}{25}$ th, and each of the 28 chief traders to $\frac{1}{7}$ th,—the remaining 7 out of the 85 shares were appropriated to old servants, in certain proportions, for seven years.

The chief factors superintend the business of the company at the respective stations, and the chief traders under them carry on the trade with the Indians. The clerks serve under both; the humblest clerk, who goes out from the Orkneys or elsewhere, by good conduct may rise to the chief positions in the service of the company. The salaries of the clerks vary from £20 to £100 per annum. The chief factors and traders who winter in the interior are allowed, in addition to their share of profits, certain personal necessities free of charge; they are not of course permitted to carry on any private trade for themselves with the Indians; strict accounts, inventories, valuations, &c., are required of them annually, and the councils at the respective posts have power to mulct, admonish, or suspend any of the company's servants. Three chief factors and two chief traders are allowed to leave the country annually for one year. A chief factor or a chief trader, after wintering three years in the service of the company, may retire and hold his full share of profits for one year after retiring, and half of the share for the four ensuing years if he winters for five years, then half for six years.

Three chief factors, or two chief factors and two chief traders, are allowed to retire annually according to rotation. The representatives of a chief factor or chief trader, who may die after having wintered five years, receive all the benefit to which the deceased himself would have been entitled had he lived; and in like proportions for less duration of service.

The accounts are kept with great accuracy, the business conducted with punctuality, and the whole machinery of the company is worked with order and economy, under the watchful care of a governor and committee in London. Sales are made by public auction of furs or peltry, several times in each year, at the company's premises in London. There is no upset price for the goods: they are sold to the highest bidder. The company has no monopoly, as some suppose, of the importation of furs, &c., into England; they have to compete with the furs of the United States of America, of Russia, Norway, &c., and if other traders can sell lower than the company, the public have, of course, the benefit. Beaver and other skins are now sold at much lower prices than formerly, and the steady supply from the Hudson's Bay territories has materially tended to the reduction of the price of foreign furs and skins, and has made "London undoubtedly the most extensive market for furs in the world." [*Greenhow's Hist. Oregon*, p. 412.]

Caprice, fashion, changes in trade, or in the use of the different articles for manufacture, materially influences the price of goods; thus, for instance, the introduction of silk hats has much reduced the price of beaver skins and other furs. The fall in the price of all skins has been very great, but as beaver constitutes the largest item in value, the reduction of profit to the company will be seen by a comparison with the prices and amount of sales. Price of beaver skin, in 1839, 27*s.* 6*d.*; in 1846, 3*s.* 5*d.*; number of skins sold in 1839, 55,486; in 1846, 15,389; sale proceeds in 1839, £76,312; in 1846, £7,856.

There is also great variety in the prices of articles of similar denomination. At the sales on 30th August 1848, two lots of otter, 66 in the lot, sold for 33*s.*; another lot, with 72 in it, sold only for £1 11*s.* Fisher skins varied from 26*s.* 3*d.* to 3*s.* each; bear skins, 15*s.* to 12*s.*; martens, 1*s.* 8*d.* to 3*s.* 1*d.*; silver fox from £7 to 2*s.* per skin. But the Hudson's Bay Company are obliged to pay the same price to the Indians for all skins,

according to tariff; whether the skins be good or bad, the company must buy them. By the time these skins are conveyed from the interior to the coast, warehoused, and shipped, their cost is greatly enhanced, irrespective of loss by damage, interest of money, insurances, &c. The profits of the shareholders are not therefore to be estimated by the difference in price between the cost of a skin at one of the company's forts in the interior, and its sale price in London. There are the heavy charges of different forts in the north-west territories—the losses by non-fulfilment of contracts (for the Indians, like the Eastern nations, almost invariably require advances, and always endeavour to be in debt to the Company)—the deficiency of skins or furs in scarce seasons—and the reduction in price at home—the long period for which the company lose interest on their outlay, from the time of the transmission of their goods from London, to the re-payment of the same in five, six, or sometimes seven years, by the fur sales in London, as the company always keep one year's stock of goods on hand in their territories; the expense of obtaining and transmitting food is often a heavy item, for at many of the company's forts, the poor Indians would perish during unusually inclement winters, when the buffalo and deer flee from the wind-swept plains to the shelter of the woods.

Whatever be the profits, after paying the whole expenses at home and abroad, they are divided, according to the provisions of the Deed-Poll just quoted, into fifths; of which three go to the proprietary, and two among the chief factors and chief traders of the company, instead of salaries. Considerable expenditure is necessary to try new districts, which sometimes, however originally promising, are ultimately found not to answer, and the establishments have to be withdrawn at a loss. The expenses incident to the Red River settlement are also a drain. The annual dividend is now about six per cent.

The Hudson's Bay Company have now about 136 establishments, besides hunting expeditions and shipping, affording employment to 25 chief factors, 27 chief traders, 152 clerks, 1,200 regular servants, besides occasional labour in boating and other services of a great number of the natives; a steam vessel and five sailing vessels of 100 to 300 tons, all armed. Their forts or stockaded positions extend from the coast of

Labrador, westward to the Pacific, and from the northern boundaries of Canada to the confines of the Arctic Ocean. Several medical officers are maintained for different forts, and at every large trading establishment; there is in fact an "Indian hospital" from which the natives derive the greatest benefit, as they resort thither in great numbers when suffering from age, infirmities, or other causes. Ministers of the Gospel of every denomination are protected and encouraged by the company, and a bishop of the church of England has been recently nominated for the newly created diocese of Rupert's Land.

Physical Aspect, Ports, and Stations.—It is difficult to convey an idea of the aspect of the vast territory belonging to the Hudson's Bay Company, or of that included in their trading licence. A large portion of the country east of the Rocky Mountains consists of inland seas, bays, lakes, rivers, swamps, treeless hills and hollows, "tossed together in a wave-like form, as if the ocean had been suddenly petrified while heaving its huge billows in a tumultuous swell."—*Simpson's Life and Travels.*

Beginning with the coast of Labrador, the prevailing features from 50° to 60° N. lat., and from 56° to 78° W. long., are, so far as we know, rocks, lakes, swamps, and mountains.

From the coast of Labrador, a ridge of table land runs nearly south-west to the source of the Ottawa river, and divides the waters which flow into the River and Gulf

of St. Lawrence, from those which flow into Hudson's Bay; it may be considered the south-eastern boundary of the Hudson's Bay Company's territories. From the Ottawa this ridge (table land, or division of waters,) takes a generally west direction till it reaches the Rocky Mountains, in about 115° W. long., separating the waters of Rainy Lake River, Red River, and the Saskatchewan, which have their embouchure in Hudson's Bay, from the Mississippi and Missouri, which flow into the Gulf of Mexico. This very slightly elevated feature was formerly considered to represent the boundary between the Hudson's Bay Company and the United States, to the westward of the source of Rainy Lake River. The treaty of 1818, defined Rainy Lake River, the Lake of the Woods, and the 49th parallel of latitude as far west as Rocky Mountains, as the boundary; and by the recent treaty, 15th June, 1846, the 49th parallel of latitude has been continued as the boundary west of the Rocky Mountains to the Pacific Ocean.* The Rocky Mountains have their northern extremity in the Arctic Ocean, lat. 70° N. long. 140° W., and run nearly S.S.E., parallel with the west coast, forming the eastern boundary of the Oregon region, sending off, at different places, spurs and buttresses, and dividing the waters that flow into the Atlantic from those that flow into the Pacific.

At Mount Browne, 16,000, and Mount Hooker, 15,700 feet high, in lat. 52° 30' N.,

* The following is the second article of the treaty of 9th August, 1842, defining the boundaries between the United States and Canada:—"Article II.—It is moreover agreed, that from the place where the joint commissioners terminated their labours under the sixth article of the treaty of Ghent, to wit, at a point in the Neeshish Channel, near Muddy Lake, the line shall run into and along the ship channel between St. Joseph's and St. Tammany Islands, to the division of the channel at or near the head of St. Joseph's island; thence turning eastwardly and northwardly around the lower end of St. George's or Sugar Island, and following the middle of the channel which divides St. George's from St. Joseph's Island; thence up the east Neeshish Channel nearest to St. George's Island, through the middle of Lake George; thence west of Jonas' Island into St. Mary's River, to a point in the middle of that river about one mile above St. George's or Sugar Island, so as to appropriate and assign the said Island to the United States; thence adopting the line traced on the maps by the commissioners, through the River St. Mary and Lake Superior, to a point north of Ile Royale in said lake, 100 yards to the north and east of Ile Chapeau, which last-mentioned island lies near the north-eastern point of Ile Royale, where the line marked by the commissioners terminates; and from the last-mentioned point south-westerly

through the middle of the sound between Ile Royale and the north-western mainland, to the mouth of Pigeon River, and up the said river to and through the north and south Fowl Lakes, to the lakes of the height of land between Lake Superior and the Lake of the woods; thence along the water-communication to Lake Saisagunaga and through that lake; thence to and through Cypress Lake, Lac du Bois Blanc, Lac la Croix, Little Vermillion Lake, and Lake Namecan, and through the several smaller lakes, straits, or streams connecting the lakes here mentioned, to that point in Lac la Pluie, or Rainy Lake, at the Chaudiere Falls, from which the commissioners traced the line to the most north-western point of the Lake of the Woods; thence along the said line to the said most north-western point, being in lat. 49° 23' 55" N., and in long. 95° 14' 38" W., from the observatory at Greenwich; thence, according to existing treaties, due south to its intersection with the 49th parallel of north latitude, and along that parallel to the Rocky Mountains. It being understood that all the water-communications, and all the usual portages along the line from Lake Superior to the Lake of the Woods, and also Grand Portage from the shore of Lake Superior to the Pigeon River, as now actually used, shall be free and open to the use of the subjects and citizens of both countries."

two of the loftiest peaks of the "Rocky Mountains," a dividing range of moderate hills runs to the north-east, from whence flows some of the branches of the Saskatchewan, Churchill, or English River, Deer Lake, Winnipeg Lake, and those streams which feed Wollaston Lake, Athabasca Lake, Slave Lake, and also several other lakes. It is, however, difficult to say what waters flow towards Hudson's Bay, or towards the Arctic Sea, as several of the lakes have different outlets, and each lake communicates with another,—the Great Slave Lake, with Lake Athabasca; Lake Athabasca, with Wollaston and Deer Lakes, the latter descending by Churchill River into Hudson's Bay. For instance, the Oungigan or River of Peace descends from a ridge of the Rocky Mountains towards Lake Athabasca, or the Lake of the Mountains; when high it flows into the lake, but when low it receives the lake waters, and flows towards the Great Slave Lake, under the name of the Slave River. Winnipeg, Winnipegos, and Manitoba Lakes, receive the waters of the Saskatchewan, Assiniboine, and Red River, and communicate with Hudson's Bay by the Nelson, and other rivers and conduits.

Mackenzie River runs northerly in its shallow course from the Rocky Mountains to the Arctic Ocean, in lat. 69° N., long. 135° W., but communicates in its progress with the Great Bear and Great Slave Lakes; excepting this, and also the Copper Mine and Back's Rivers, the course of all the other rivers and lakes of North-West America, east of the Rocky Mountains, would appear to be to the eastward, towards which the whole country dips.

Viewing, therefore, the whole of the territories between the Rocky Mountains and Hudson's Bay, north of the 19th parallel, as one region, it may be considered as a series of lakes, rivers, and plains, with a gradual elevation from east to west. The northern territory, which was very imperfectly explored until the recent journeys of Dease, Simpson, and Rae, from 1837 to 1847, is intersected with lakes, marshes, and rivers to a greater extent than any part of the known globe; and it would seem as if the inner springs of the earth there burst forth. Some parts investigated are truly regions of desolation: vegetation ceases in the latitude of 60° north:—no land is seen capable of cultivation; the whole surface is rugged and uneven, and the open valleys nearly devoid of all vegetable productions. The

soil at Churchill Fort (one of the Hudson's Bay Company's stations, in lat. 59° N.) on the shores of the bay, is extremely barren, rocky, dry, and without wood for several miles inland; a few garden vegetables are with difficulty reared. At York Fort, in lat. $57^{\circ} 2'$, long. 93° W., the soil is low and marshy, and equally unproductive; and, though the trees are larger than those inland of Fort Churchill, they are still knotty and dwarfish. The country around the factory, although elevated above the river, is one entire swamp, covered with low stunted pine, and perfectly impenetrable, even in July, when it is infested by clouds of mosquitoes. The land seems to have been thrown up by the sea, and is never thawed during the hottest summer, with the thermometer at 90° to 100° in the shade, more than 10 or 12 inches, and then the soil is of the consistence of clammy mud; even in the centre of the factory it is necessary to keep on the platforms to avoid sinking over the ankles. About Albany Fort, in 52° N., and Moose Fort in $51^{\circ} 28'$, the climate is more temperate, the soil better, and potatoes and garden produce are reared, but with difficulty. Proceeding farther west, the temperature improves, but all around Hudson's Bay, particularly at Fort Churchill, the climate is extremely severe; and from the middle of October to the middle of May, the country is buried under snow. The ice does not break up generally until July, and at York Fort, two degrees south of Churchill, the thermometer in January has been at 50° below zero. Even in rooms at the factory, where a fire is perpetually kept up, brandy freezes into a solid substance: the rivers and lakes, 10 to 12 feet deep, are frozen to the bottom, and the Hudson's Bay Company's European servants are obliged to observe the greatest caution against the effects of the cold air, which is frequently filled with small particles of angular ice, and when driven by the wind against the face or hands, raises the skin in white blisters, which break out in thin watery issues. As soon as a room is thoroughly heated, and the embers burnt down, the top of the chimney is closed so as to exclude the air, yet the walls of the apartment are found covered with ice two to three inches thick. In the *Quarterly Review*, No. xlix. vol. xxv., 1821, Sir John Barrow thus adverts to a similar occurrence on board Captain Parry's ships, *Hecla* and *Griper*:—"The month of March set in mildly (at their retreat in Winter

Harbour) so that the solid ice, which for some time had lined the ship's sides, began to melt. It therefore became necessary to scrape off this coating of ice, on which occasion Captain Parry observes—"It will, perhaps, be scarcely credited, that we this day (8th March) removed above one hundred buckets full, each containing from five to six gallons, being the accumulation which had taken place in an interval of less than four weeks; and this immense quantity was the produce chiefly of the men's breath and of the steam of their victuals during meals." The Europeans in the service of the Hudson's Bay Company, notwithstanding their precautions, and the use of a large quantity of woollens and furs, are frequently frost-bitten, and many of the natives fall victims to the severity of the climate. The sun is often obscured for weeks by thick fogs, caused by clouds of watery vapour ascending from the sea, which, being condensed by cold, hang all around the coast, and extend inland to a considerable distance. The "mock suns" and moons, called Parahelia and Paraselene, appear very frequently in the coldest months. The temperature of the air is subject to the most capricious variations; rain sometimes falls abundantly with a serene sky, or the sun will burst forth in the midst of the heaviest showers. Such is the region in which several of the Hudson's Bay Company's establishments are situated, and which could not be maintained but for the possession of some more temperate regions, from whence food is procurable.

Hudson's Bay, discovered by John Hudson in 1610, is about 900 miles in length, by 600 at its greatest breadth, with a surrounding coast of 3,000 miles, between the parallels of 51° and 65° N. lat. The coasts are generally high, rocky, rugged, and sometimes precipitous. The bay is navigable for a few months in summer, but for the greater part of the remainder of the year is filled up with fields of ice. The navigation, when open, is extremely dangerous, as it contains many shoals, rocks, sand banks, and islands; even during the summer icebergs are seen in the straits towards which a ship is drifted by a squall or current, rendering it very hazardous for the most skilful seamen. The transitions of the thermometer in summer are from 100° to 40° in two days, and the torrents of rain are surprising: whether in winter or summer, the climate is horrible; the range of the thermometer throughout the year is 140° . The sea is entered by

Hudson's strait, which is about 500 miles long, with a varying breadth, and with an intricate navigation through several islands, viz.: Charles, Salisbury, Nottingham, Mansfield, and Southampton. The principal bays and inlets in this great inland sea, are, James's Bay, in the south-east, which is 210 miles deep by 140 wide; Button's Bay, and Port Nelson, on the western coast; Chesterfield Inlet on the north-west, which, after stretching far into the interior, terminates in a fresh water lake; Roe's Welcome, a deep strait on the north coast, and also Repulse Bay.

We may now examine the country between Hudson's Bay and the Rocky Mountains, commencing with the lakes and rivers. The Great Bear Lake, the most northerly, is 150 miles in diameter, and communicates by Lake Martin with the Great Slave Lake, which is estimated at 260 miles from E. to W., and 30 from N. to S. Captain Back considers it as large as Lake Michigan; its soundings are from 40 to 60 fathoms. The north side of the lake is an entire jumble of rocks and hills; the south is level, not a hill or stone to be found. The Great Slave River joins this lake to that of Athabasca, which is 180 miles long and 15 broad—receives the Peace, Athabasca, and Stone rivers; the latter river forms the channel which conveys a portion of the waters of the Wollaston Lake (situated on table land) into Athabasca Lake; another portion of the waters of Wollaston Lake flows in a contrary direction through Deer Lake and River into the Missinippi, Churchill, or English River, which forms several smaller lakes, and finally discombogues into Hudson's Bay, at Fort Churchill, in lat. $55^{\circ} 45' N.$, long. $94^{\circ} 25' W.$

Lake Winnipeg, in lat. $50^{\circ} 20'$ to $53^{\circ} 45' N.$, is 240 miles long, and from 5 to 50 broad. It receives the river Saskatchewan, as it flows from the Rocky Mountains and northern ridge; also the Red and Assiniboine rivers, and discharges itself into Hudson's Bay by the Nelson and other rivers. Winnipegos and Manitoba are branch or tributary lakes to Winnipeg.

That the trend of the land, and the dip, is towards Hudson's Bay and the eastward, is evident from the course of the Red River, which rises in about the parallel of 46° ; flows to the northward across the American boundary parallel of 49° ; joins the Assiniboine, or Nadawosis River, at Fort Garry, in $50^{\circ} N.$ lat., and then discombogues into

the south-western part of Lake Winnipeg, which, as before stated, discharges into Hudson's Bay. The Moose River, which flows from the dividing ridge of highlands, which separates the Hudson's Bay territories from Canada, runs for 230 miles in a north-east direction, and has its embouche in James's Bay, lat. $51^{\circ} 10' N.$, long. $81^{\circ} W.$

The country between the sources of the Assiniboine, in $51^{\circ} 15' N.$, and the Red River, is almost a continued plain, the soil of sand and gravel, with a slight intermixture of earth, which produces a short grass; but trees are rare. The country around the southern part of Lake Winnipeg is well wooded and watered, and abounds at seasons with herds of buffalo and deer; so also contiguous to the Winnipegos Lake and Swan River, and along the route from Carlton to Isle à la Crosse. Forts in the 55th parallel. The northern part of Lake Winnipeg is composed of banks of naked black and grey rock. Farther north, occasionally greener spots are to be met with: some of the islands in the Great Slave Lake are clothed with tall poplars, birch, and pines, and well stocked with deer. Near the portage La Loche is a precipice upwards of 100 feet above the plain, from whence, according to Mackenzie, there is a "ravishing prospect:"—the Swan (Pelican, or Clear Water) River meanders for thirty miles through a valley about three miles in breadth, confined by two lofty ridges of equal height, displaying a delightful intermixture of wood and lawn. Some parts of the inclining heights are covered with stately forests, relieved by verdant promontories, where the elk and buffalo enjoy delicious pasturage.

The route from the Red River settlement (Fort Garry) to Fort Chipewyan, on Lake Athabasca, was traversed in December, 1836, by Mr. Thomas Simpson, by the following stages, in a very short space of time:—

	Miles.	Days.
Fort Garry (Red River) to Fort Pelly . . .	394	in 15
Fort Pelly to Fort Carlton . . .	276	" 12
Carlton to Isle à la Crosse . . .	236	" 7
Isle à la Crosse to Fort Chipewyan . . .	371	" 12
Total . . .	1277	in 46

These, and other forts and stations, are necessarily wide apart, and in situations favourable to water communications, and to procuring animal, or, if possible, vegetable food. The aspect of the country in which these forts are constructed, I have gathered from the observations of Mr. Simpson.—

Fort Garry, the principal station of the Red River Settlement, is situated at the forks of the Red and Assiniboine rivers, about fifty miles from Lake Winnipeg, and is environed by plains; proceeding north-west the country is studded with a few copses of poplar and dwarf oak; but the greater part having been swept in 1835 by the running fires (so frequent and terrible in the prairies), presented a blackened and dismal aspect. There were a number of small natural mounds on which lay fragments of limestone, the great basis of the plain region, and quantities of little shells were strewn about in every direction.

The soil and climate about Manitoba, or "Evil Spirit" Lake, is similar to that of the Red River. At Winnipegos Lake the oak region terminates; but the shores are clothed with elm, poplar, and a few ash, birch, and pine-trees. The water in this lake is brackish in summer. At Duck Bay the first wood of pines was seen. The route from thence to Fort Pelly, south-west, lies through swampy meadows, alternating with woods of poplar, fringed with willow, and a few straggling clumps of pine in the neighbourhood of the Swan River and Duck Mountain, with its "rude and impassible heights." Thence west to north lie the Porcupine Hills, wooded to the very summit. Thunder Hills are about two miles in breadth, steep; and beyond them to the northward is Fort Pelly, in $51^{\circ} 15' 20' N.$ lat.— $102^{\circ} 5' W.$, near the bank of the Assiniboine River. The track thence to Fort Carlton, lies through gently undulating eminences along the wooded banks of the tortuous Assiniboine, thence due west, leaving the Assiniboine far to the south, over a hilly country, tolerably wooded, and abounding in small lakes and swamps to the west end of Stoney Lake, through a country consisting of narrow plains, studded with clumps of poplar, interspersed with little lakes and swamps; a great part of this district had been recently overrun by fire. Changing the course from west to west-south-west, the traveller reaches the immense prairies of the Saskatchewan River, of which entire tracts are frequently bared by fire to the very soil. The cold in these plains in winter, with the wind from the westward, is terrific; there is not a shrub or even a blade of grass to break the force of the blast, whose temperature is at least 40° below zero. The only exposed part of the traveler, the eye-lashes, becomes speedily

covered with a heavy crop of icicles, which the half-frozen fingers have a difficulty in removing. These plains are frequented in summer by the Indians as hunting grounds, although the fierce heat is then little more endurable than the cold in winter. Throughout this country, says Sir George Simpson, everything is in unparalleled extremes. Cold and excessive heat,—long droughts balanced by drenching rain and destructive hail (sometimes $5\frac{1}{2}$ inches in circumference). At one period both whites and natives are living in wasteful abundance on venison, buffalo, fish, and game—at others reduced to the last degree of hunger, often passing several days without food. In 1820, when wintering at Athabasca Lake, Sir George Simpson says, he was for three days and nights without a morsel of food. Frequently hundreds of fine buffaloes are killed for the tongues alone. On one occasion Sir G. Simpson saw several thousand buffaloes putrifying the air for miles around. Unsheltered plains extend far to the south, to the ridges in lat. 49° , whence the Missouri descends. One of the prairies of the Saskatchewan crossed by Mr. Simpson, was fourteen miles wide, and only a few willows were thinly scattered on its surface. The country south of the Saskatchewan towards Assiniboine, has in various places lakes as salt as the Atlantic Ocean. As this region, which extends to the Rocky Mountains, has been erroneously considered adapted for European colonization, the following extract from Mr. Thomas Simpson's Journal may help to dispel the illusion. "Christmas Day, Sunday, the 25th: On shaking off our slumbers this glad morning, a troop of wolves were 'baying the moon,' as she rode in a cloudless sky. The country before us being intricate, we could not start till daylight; and when we sallied forth on our day's march, the weather had moderated. About two miles from our resting-place, we passed over a round hill, and stood awhile on its summit to enjoy the boundless prospect. From west to south stretched a vast plain, separated from another, of which we had a bird's-eye glimpse to the north-east, by the broad belt of woods which we had been skirting along; while before us, in our line of march, lay outspread a seemingly endless tract of open underwood, varied by gently swelling eminences. For seven miles our route led west-north-west, through thickets and over hillocks; it then changed to west for fourteen miles, through a more

open country, consisting of rising grounds or "*coteaus*," with bare ridges, and sides clothed with dwarf poplar and brushwood; while here and there, in the hollows, we crossed large ponds, scarcely deserving, on this continent, the title of lakes. They have no outlet; and on cutting through the ice for water, we generally found it putrid; such, however, is its scarcity in that level country, that we were often fain to use it when most nauseous, taking the precaution of imbibing it through snow, which purifies it in some degree. We now turned west-south-west for eight miles, keeping along a broad and rather winding ridge, which appeared to furnish the buffalo with a regular road of ingress to the woods. Several tracks of moose-deer were also seen during the day. After sunset, we took up our quarters in a small clump of poplars. The whole country having been ravaged by fire, we could not find dry grass, as usual, for our beds, and spread our Christmas couch on willow branches; rough indeed, but rendered smooth to us by health and exercise."

Several of the Hudson's Bay Company's forts are situated in the country N. W. of the Red River. *Fort Pelly* is a compact, well-ordered post on the route from Fort Garry, on the Red River, to Fort Carlton. It is sheltered on the north by a range of woods, and has the Assiniboine River in front; the cold in December is terrific, sometimes— 44° , equal to 76 degrees of frost.

Carlton Fort is situated on the south side of the Saskatchewan River, and is defended by high palisades, and a gallery surrounding the whole square, planted with wall pieces, into which, however, the Indians fired several times during the summer of 1835. Provisions were unusually scarce, when visited by Mr. T. Simpson in 1836, the great fires in autumn having driven the buffalo to a distance. The route to Fort La Crosse lay first through an open country consisting of low, round, grassy hills, interspersed with clumps of poplar, occasionally of pines, and with many small lakes to the boundary of the pine forest, in lat. $53^{\circ} 30'$ north; thence hills, lakes, lakelets and brooks, to a hilly tract of fourteen miles in extent, which divides the waters that flow towards the Saskatchewan and Churchill Rivers. From Green Lake to Beaver River is swampy and wooded; and thence to Long Lake chain are pine woods. Fort La Crosse, in $107^{\circ} 54' 30''$ W. on the border of the lake, is neat and compact; the country around low

and swampy. At the portage La Loche, north of Fort Crosse, the hills are a thousand feet in height, steep, and command a fine view of the Clear water River, and its picturesque valley; thence to the confluence with the Athabasca River, whose broad bosom is studded with numerous islands that give it a lake-like appearance.

At Fort Chipewyan, lat. $58^{\circ} 43' 38''$ N., long. $111^{\circ} 18' 32''$ W., the surface consists of rocks and swamps, and the climate precludes all prospect of rearing farm produce; even potatoes have to be brought down from Fish River; and when the coarse grass, cut in the swamps for the use of the few horses and oxen required for drawing fire-wood to the fort, fails, fish from the Athabasca river is the only provender obtainable for the cattle. Fort Edmonton is situated on the northern branch of the Saskatchewan River, in lat. $53^{\circ} 45'$ N. long. $113^{\circ} 10'$ W., and was visited by Sir G. Simpson in his progress from the Red River to the Columbia and Fort Vancouver. The fort is of an hexagonal form, well built, with high pickets and bastions, and battlemented gateways; it is on an almost perpendicular height commanding the river. The fort is painted inside and out with devices to suit the taste of the savages who frequent it. Over the gateways are a fantastic pair of vanes, and the ceilings and walls of the hall present gaudy colours and fantastic sculptures, which the Indians admire. The buildings are smeared with red earth; the savages are awed by so much finery, and respect what appears to them grand structures.

The settlement on the Red River, distant from Montreal, by the Ottawa River, about 1,800 miles, in lat. 50° N., long. 97° W., is elevated 800 feet above the sea, in a level country, contiguous to the wooded borders of the Red and Assiniboine Rivers, along which the settlement extends for fifty miles. The soil is comparatively fertile, and the climate salubrious, but summer frosts generated by undrained marshes, sometimes blast the hopes of the husbandman. The Hudson's Bay Company, by the introduction, at a great expense, of rams and other stock, have improved the breed of domestic animals, which are now abundant: wheat, barley, oats, maize, potatoes, and hops thrive; flax and hemp are poor and stunted. The river banks are cultivated for half a mile inland, but the back level country remains in its natural state, and furnishes a coarse hay for the settlers' stock during the long

and severe winter, which lasts from November to April, or May, when Lake Winnipeg is unfrozen, and the river navigation to Hudson's Bay commences, *vid* Norway House entrepôt, at the northern extremity of the lake.

The population is in number about 8,000, consisting of Europeans, half-breeds, and Indians. The two principal churches, the protestant and Roman catholic, the gaol, the Hudson's Bay Company's chief buildings, the residence of the Roman catholic bishop, and the houses of some retired officers of the fur trade, are built of stone, which has to be brought from a distance; but the houses of the settlers are built of wood, whitewashed or painted externally.

Land is granted to the settlers at $7s. 6d.$ per acre; there is no restriction but in the purchase or sale of furs and spirits, and only a slight import duty is imposed on other commodities, the proceeds of which duty are received by the municipality of Assiniboine.

The colony is governed by a corporation called the Council of Assiniboia, which, in virtue of the Royal Charter of 1670, exercises judicial as well as legislative authority, under an able Recorder.

The currency is one of the best established in any colony. It consists, with the addition of silver and copper coin, of notes issued by the Hudson's Bay Company, which are payable at York factory, by bills on the company in England. This circulation is absolutely essential; gold or silver would soon be hoarded, melted, or lost; and a note issued by the government of the place, receivable in payments, of acknowledged exchangeable value, devoid of fluctuation in exchanges, and convertible, without loss or risk, into cash in England, is an advantageous monetary circulation for any settlement, and not a grievance or subject of complaint. Commodities to the full value of the notes can always be obtained at New York, Montreal, &c.

The population of the Red River settlement, in 1813, was 5,113, of which number, 2,798 are Roman catholics, and 2,315 are Protestants. The heads of families are 870; of whom 571 are Indians or half-breeds, natives of the territory; 152 Canadians; 61 Orkney-men; 19 Scotchmen, 22 Englishmen; 5 Irishmen; and 2 Swiss. Wales, Italy, Norway, Denmark, Germany, Poland, and the United States of America, have each contributed one to the list. There is also

one Esquimaux Indian. There are 730 dwelling-houses, 1,219 barns or stables, 18 windmills, and 1 water-mill. There are 182 horses, 749 mares, 107 bulls, 2,207 cows, 1,580 calves, 1,976 pigs, and 3,569 sheep.

The Bishop of Montreal says of the Red River settlement, that "it affords a wonderfully striking example of good brought by the hand of God out of evil." His lordship thus describes the churches there:—"Along the strip of settlement which occupies, with interruptions, the opposite sides of the river, the four English churches are situated. The Indian church is about 13 miles below the lower church at the rapids; this again is about 6 from the middle church; and the middle church about 7 from the upper. The Indian church is a wooden building, painted white, 50 feet or upwards in length, with a cupola over the entrance. It has square-topped windows, which, so far, give it an unecclesiastical appearance. The lower church is also of wood, and of the length of 50 feet. The middle church, which is not quite completed, and which has been built by the unaided exertions of the congregation, is an edifice of stone, 60 feet long. The upper church, which is also of stone, is 10 feet longer, and will accommodate 500 persons."

There are scattered about the Red River settlement several respectable retired factors or traders of the company; some married to European, more to native wives. Although the style of the establishments at the forts is exceedingly plain, and the extreme difficulty of transport, as well as the isolated character and remote situation of the place itself, cause a variety of articles to be dispensed with to which some of the inmates have been elsewhere accustomed, yet there is far from a deficiency to be witnessed there, either of comforts or of habits of refinement. Its communications with England—are for goods *via* Hudson's Bay—during the summer season, and for personal travelling and letters, *via* Montreal, from which the Red River is distant 1,800 miles. The company have, along this line, about 10 stockaded posts. The Bishop of Montreal traversed the distance in 38 days.

We may now proceed to examine the Pacific coast and the Rocky Mountains, whose highest ridges are in the parallels of 52° to 53° , about 8,500 feet. Some peaks rise to 15,000 and 16,000 feet, but the general range is 4,000 to 6,000 feet, diminishing in height towards the north. This granitic mountain chain is from 50 to 100 miles wide.

The country termed New Caledonia, between the Rocky Mountains and Cascade Mountains, near the coast of the Pacific, is well watered, undulating in bold swells, with occasional plains and copses, and an abundance of forest trees, of which the cedar, fir, and hemlock, grow to a prodigious size.

In New Caledonia, the Hudson's Bay Company have several stations, and also in the adjacent country. Fort Alexandria, in $52^{\circ} 30' N.$, is the residence of one of the company's chief traders, and here the navigation of Frazer's River is begun by the northern brigade on their way to the north. A small open space is cleared for a few cattle, but the rest of the country is covered with a dense forest. Fort Thompson, on the Kamloop's River, is in $50^{\circ} 38' N.$, and $120^{\circ} 7' 10'' W.$ Frazer's, Babine's, and McLeod's Forts are on the lakes of the same names. Fort St. James, on Stuart's Lake, was the residence of chief factor Ogden, who had charge of the New Caledonia department.

Frazer's River flows through New Caledonia, but is not navigated below Fort Thompson, owing to its dangerous falls. The distances from Fort Thompson to Fort Alexandria, by land, is 150 miles, and thence to Fort James 120. Commodore Wilkes says that the climate of this region is unfavourable to agriculture, in consequence of its being situated between the two ranges of mountains, viz., the Rocky Mountains on the east, and the Cascade Mountains (of the coast) on the west, both of which ranges are constantly covered with snow, and in the plains or villages snow lies from November to May six feet deep. The commodore adds, "there are many spots of fertile land along the rivers, but the early frosts are a great obstacle to agriculture. At St. James, Babine, and Frazer's Forts, only potatoes and turnips can be cultivated." Frazer's River has its embouche six miles to the north of the 49th parallel, which defines the United States' boundary. It is about a mile wide, the country around low, with a rich alluvial soil. Fort Langley is 20 miles from its mouth.

Sir George Simpson made a journey of 2,000 miles in 47 days from the Red River, *via* Fort Edmonton, to Fort Colville in 1811. He crossed the Rocky Mountains at the confluence of two of the sources of the Saskatchewan and Colombia, near Fort Kotanic, at an elevation of 8,000 feet above the sea, with mountains rising about half that altitude around. The descending country to the Kotanie River was rugged and

boggy, with thick and tangled forests, craggy peaks and dreary vales, here and there hills of parched clay,—where every shrub and blade of grass was brown and sapless,—as if newly swept by the blast of the sirocco; with occasional prairies and open swards, interspersed with gloomy woods or burning pine forests. In one place a valley was seen 30 miles long by six wide without a tree, and environed by mountains. The natives of these regions were in a wretched condition.

The coast abounds with harbours, inlets, and islands. The north-western Archipelago, which lies north of Vancouver's Island, belongs partly to England and partly to Russia. The islands within the British dominions are of various sizes; the largest, named "Queen Charlotte's Island," is somewhat of a triangular form, lying nearly north and south, the south point in the parallel of 52° . The superficial area is less than that of Vancouver's Island: it has several good harbours, viz., on the north coast, Port Estrada, near Sandy Point, and Croff's Sound, a little farther west. On the east side, Skitekis, in $53^{\circ} 20'$ N. lat.; Cumashawa, near 53° N.; and Port Sturges, farther south. On the west, or Pacific coast, Magee's Sound, in $52^{\circ} 1'$ N. lat.; and Port Ingram, near the north-west extremity of the island. The country around some of these harbours, especially Port Estrada (Hancock's River), and Magee's Sound, is said by the Americans to be fertile, and the climate comparatively mild.

Queen Charlotte's island is admirably adapted for the formation of a penal settlement, by its distance from England, its complete insularity, adaptation for the support of a large convict settlement by the labour of the prisoners, the impossibility of escape, the improbability of the transported being ever enabled to return to England, and by the useful purposes in which the convicts may be employed in the formation of a fortress and a colony in the Northern Pacific, contiguous to China and Japan.

The Princess Royal Islands lie nearer to the main land, between the parallels of 51° and 54° N. lat. Of the interior of the whole of these islands, little or nothing is known; the largest are traversed by mountain ridges in the direction of their greatest length from south-east to north-west. The adjacent coast is of very irregular outline, with numerous bays, inlets, and winding channels, forming a labyrinth of passages. Simpson's River, on our north-west boundary, has a deep inlet,

and communicates with Babine Lake, where the Hudson's Bay Company have a fort. The Company have also an establishment on Pitt's Islands, in the north-western Archipelago.

The north-west coast and interior, north of the parallel of 55° , is described as extremely rugged; lofty mountains, covered with snow, rise abruptly from the ocean; more inland, the whole region consists of Alpine masses, thrown together in the wildest confusion, so that a level site for a fort can hardly be found within any convenient distance from a stream or lake. It is a land of rocks, as difficult of access as it is impracticable in itself, except at the very margin of the sea. Most of the streams to the north of Frazer's River, are mere torrents fed by melting snow in summer, and in winter by the unceasing deluges of this dismal climate; these streams form deep valleys in the precipitous heights of every form and magnitude in their progress to the ocean. Hence the term "Cascade Mountains," given to the coast line north of Vancouver's Island. The company hold under lease from Russia, a fort on the Stikine or Pelly's River, where the climate and country are alike miserable in the extreme, and their effects are increased by the putridity and filth of the adjacent Indian village. At this fort, in April 1842, the gentleman in charge was shot in a scuffle, and 2,000 savages encamped around were preparing to rifle the fort, when, fortunately, Sir G. Simpson arrived in a Russian steamer. Taco Fort, under Dr. Kennedy, an assistant, and 22 men, is still farther northward on the coast, surrounded by 4,000 savages, warlike and ferocious, who at first captured Dr. Kennedy and his assistant, and required for their ransom four blankets. The fort is now strong.

Fort M'Loughlin, on the north-west coast, near Milbank Sound, was formed in 1837, on one of the most rugged spots imaginable. By great and unwearying exertions for several years in blasting, levelling, and gravelling, the company's officers have made a strong fort on a rock capable of holding out with 20 men, against all the Indians of the coast. An enclosed surface of three acres has been covered with sea-weed and made into a garden, producing potatoes, carrots, turnips, cabbages, &c. It is probable that on the north-west coasts adjoining to Vancouver's Island, and Queen Charlotte's Island, many spots available for European colonization will be found. The climate on the coast of

the Pacific is much milder than similar latitudes on the Atlantic or opposite shores of the American continent.

Some of the principal forts belonging to the Hudson's Bay Company, are:—

1. *York Fort*—The most important station of the Hudson's Bay Company has control over the extensive region west and north of Hudson's Bay, bounded by the Arctic Ocean, the Rocky Mountains, and a line drawn from the bay through Rainy lake. Among the posts depend on York fort, are, those of forts Churchill and Severn, and the forts or houses on the different lakes—viz. Trout, Beaver, Cat, Swampy, Split, Nelson, Deer, La Rouge, and La Crosse. There are also Rock-house on Hill river, and Oxford house, Holy lake. On the Saskatchewan, are the forts or stockaded houses, called Cumberland, Carlton, Manchester, Edmonton, Acton, or Rocky Mountain. On Lake Athabasca are forts Chipewyan, Wedderburn, and Fond du lac; on the Mackenzie river in its course to the Arctic Ocean, forts Simpson, Norman, and Good Hope; and on the upper part of the same river, forts Vermillion, Dunnegan, and Rocky Mountain.

2. *Moose Factory* is about 700 miles from the city of Montreal, in Lower Canada, and is the company's principal dépôt on the southern shores of Hudson's Bay. Connected with this establishment, there are numerous stations: some of which are at a distance from the Fort, varying from 100 to 250 miles. The forts and stations in the country between Hudson's Bay and the lakes in Canada, are under this superintendency. On James's Bay, are, Albany fort, East Mainfort, and Rupert's house. On the river Albany, are, Martin's Fall, and Osnaburg houses; on the Moose or Brunswick river, is New Brunswick house, and to the south-east, Frederick house. There are establishments on the small lakes Abbitibbe, Mistassiny, Big, Wagwanapp, and Temiscaming. The Indians, in this district of country, are principally of the Swampy Cree tribe, with a few Esquimaux at an establishment called Big River, which is about 250 miles to the north-east of Rupert's River.

3. *Michipicoten* is the principal factory belonging to the company on the shores of Lake Superior; within and around which, and the different establishments in that extensive range of country, there is a considerable population of Europeans and half castes, as well as of native Indians, who

are chiefly of the Ojibway or Salteaux Indians. On the W. shore of Lake Superior is Fort William, and there is a post at the Falls of St. Mary.

4. *Lac la Pluie* is a trading post of the company, situated near the height of land which divides the waters falling into the St. Lawrence from those that fall into Hudson's Bay, and is distant from Montreal about 1,300 miles. The neighbourhood of this place is a great rendezvous for Indians from the surrounding country, during the summer, as the means of living on fish and rice are very abundant.

5. *Fort Alexander* is formed at the outlet of the River Winnipeg, and is distant from Montreal 1,500 miles. It is much frequented by the Indians, who, as well as those that visit Lac la Pluie, belong to the Ojibway or Salteaux tribes.

6. *Edmonton* is an establishment on the Saskatchewan River, which has its source on the Rocky Mountains, and disembogues itself by Nelson River into Hudson's Bay. It is distant from Montreal 2,800 miles. From thence to the Athabasca River, which also has its origin on the Rocky Mountains, the establishments are frequented by the bold and daring prairie or plain tribes of Indians, including the Assiniboines, the Peagaus, the Sareces, and the Blood Indians. The Thickwood Crees and Assiniboines amount, with the whites and mixed population attached to the station, to between 15 and 20,000 souls.

7. *Norway House*, one of the principal dépôts belonging to the company, is situated at the northern end of Lake Winnipeg, and is distant from Montreal 2,000 miles. There is an Indian village connected with this place, the inhabitants of which derive great advantages from the proximity of the company's establishment, where the Indians, who are a part of the Swampy Cree tribe, find permanent employment as fishermen, boatmen, and labourers. Beren's river house and Fort Alexander are also on Lake Winnipeg. At Ungava Bay, at the entrance of Hudson's Strait, there is a station for collecting the produce of the coast of Labrador, consisting chiefly of oil from the seal and porpoise; and there are establishments for taking and curing salmon, which is sent to the Quebec market.

The Hudson's Bay Company possess a very thriving establishment at Fort Vancouver, in the Oregon country, recently ceded to the United States.

POPULATION. — The best approximative estimate of the number of inhabitants in north-western America is given in an official report of Lieuts. Warre and Vavasour, as a "Census of the Indian Tribes in the Oregon

territory from latitude 42° to latitude 54°, derived from the trading lists of the Hudson's Bay Company, and from the best obtainable information: it is dated, "Fort Vancouver, 1845."

Name of the Tribe.	Where situated.	Males.	Females.	Children under 12 years.	Slaves.	Total.
Quacott.—Navette and 27 others. Tribes speaking generally the Quacott language.	From Lat. 54 to Lat. 50° including Queen Charlotte's Island; North end of Vancouver's Island, Milbank Sound and Island, and the main Shore	19,020	20,215	.	1,570	40,805
Massettes and 13 tribes, not included with the above, and speaking different languages.	On Queen Charlotte's Island, not included in the above	3,232	3,381	.	.	6,613
Nass Indians, 4 tribes speaking the same language.	Nass river on the main land	857	746	.	12	1,615
Chymysians, 10 tribes, all of whom speak the same language, with a different idiom.	Chatham Sound, Portland Canal, Port Essington, and the neighbouring islands	1,202	1,225	.	68	2,495
Skeena Indians, 2 tribes.	At the mouth of the Skeena river	195	120	.	7	322
Labasas Indians, 5 tribes.	Gardner's Canal, Canal de Principe, Canal de la Reida	717	601	.	111	1,429
Milbank Sound, 9 tribes.	Milbank Sound, Caccade Canal, Deme Canal, Salmon river, and the islands on the coast	784	797	.	47	1,628
Challams.—Cowaitchims, 24 tribes, speaking the Challam and Cowaitchm languages.	From lat. 50° along the coast south to Whitty Island in lat. 48°; part of Vancouver's Island and the mouth of Fraser's river	3,176	3,383	.	2,868	9,427
New Caledonia Indians—8 tribes known).	McLeod's Lake, Chelertius, Fort George, Alexandria in Fraser's river, Conally Lake, Babine Lake, Fraser's Lake, Stuart's Lake	1,265	1,150	.	210	2,625
Sanetch Indians, 3 tribes.	Straits of St. Juan de Fuca and Vancouver's Islands	194	152	99	.	445
Hallams, 11 tribes.	Ditto ditto	517	401	467	4	1,485
Sinahomish, 1 tribe.	Ditto ditto	208	118	250	13	599
Skateat, 1 tribe.	Ditto ditto	173	161	191	18	543
Cowitchiel, 7 tribes.	Ditto ditto	524	636	585	.	1,768
Soke Indians, 1 tribe.	Ditto ditto	39	39	12	.	90
Cowitchier, 3 tribes, not as yet ascertained (say)	.	.	.	.	.	300
Gulf of Georgia Indians, exact numbers not ascertained	Cape Flattery (about)	.	.	.	.	1,250
Nasqually, 13 tribes.	Nasqually river and Puget's Sound	1,835	1,997	.	182	4,014
Two tribes in Cayletz river (about)	.	.	.	.	.	500
Cheenooks, Clatsops, and several tribes near the entrance of the Columbia river.	Mouth of the Columbia river and the vicinity	.	.	.	.	429
Trile Kabets, several tribes.	Near Fort Vancouver in the Columbia	.	.	.	.	500
Vule Puyas, several tribes	Valley of the Willamatu river	.	.	.	.	300
Clakamus, several tribes.	Valley of the Clakamus and the Willamuta Falls	.	.	.	.	200
Cheanooks, Kelussuyas, 4 tribes.	Pillar Rock, Oak Point, The Dallas, The Cascades, Cheate river, Tukama river on the Columbia	.	.	.	.	800
Killamooks, 3 tribes.	On the sea coast, between the river Columbia and the Unqua	.	.	.	.	1,500
Chamets, several tribes.	Rogues river near the south boundary	.	.	.	.	800
Walla-Walla, Nez Perce, Snakes, and several tribes.	One of the South or Snakes branch of the Columbia, extending to near the Rocky Mountains	.	.	.	.	3,000
Colville and Spokane.	Near Fort Colville on the Columbia	.	.	.	.	450
Okanagan, several tribes.	On the Okanagan and Piseour rivers	.	.	.	.	300
Kullis-Pabus, several tribes.	On the Flathead or Clarke river	.	.	.	.	300
Kootoonais, several tribes.	On McGillivray's river, the Flat Bow Lake, &c.	.	.	.	.	450
Total		33,956	35,182	1,584	5,146	86,947

Recapitulation.—Males, 33,956; females, 35,182; children, 1,584, of both sexes, under 12 years of age; slaves, 5,146. Total, 86,947 Indian population, from latitude 42° to latitude 54° N.

"The Indians of Puget's Sound and the Straits of De Fuca, also those farther to the north, appear to be more numerous than those of the interior, and cultivate large quantities of potatoes, &c. for their own

use, and to barter with the vessels frequenting the coast. They are not so cleanly as the Indians of the prairies, nor are they so brave or warlike. Many of the latter tribes are a very fine race of men, and possess large herds of cattle and immense numbers of horses. In the neighbourhood of Walla-Walla, individual Indians were pointed out to us who owned more than 1,000 horses. Slavery is common with all the tribes; and he who possesses most slaves and the largest number of horses, is considered the greatest chief. The Indians of the north are sometimes troublesome; but those of the Columbia are a quiet, inoffensive, but very superstitious race. To this last cause may be traced their quarrels with the white man and with one another. They are well armed with rifles, muskets, &c., but, from policy, they are much stinted by the Hudson's Bay Company in ammunition. The Indian tribes do not remain upon the same ground during the whole year. In the summer they resort to the principal rivers and the sea coast, where they take and lay by large quantities of salmon, &c. for their winter consumption, retiring to the smaller rivers of the interior during the cold season. Neither the Roman catholic nor Methodist missionaries have done much towards reclaiming the Indian population, who are an idle, dissolute race, and very few of them can be induced to change their mode of life, or cultivate more than will absolutely keep them from starvation. The total abolition of the sale of intoxicating liquors has done much for the good of the whole community, while population as well as Indian; and so long as this abstinence (which can hardly be called voluntary) continues, the country will prosper. When this prohibition is withdrawn, and the intercourse with the world open, such is the character of the dissolute and only partially reformed American and Canadian settlers, that every evil must be anticipated, and the unfortunate Indian will be the first to suffer."

The Esquimaux occupy the country bordering upon the Arctic Seas, Hudson's Bay and Strait, and the Labrador coast. The Indians roam over the country, in summer following the buffalo, deer, and other wild animals into the districts occupied by the Esquimaux, with whom they are generally in a state of hostility; and as the winter advances, they return towards the more southern regions. A district termed the Saskatchewan, east of the Rocky Mountains, as large as England, contains only 16,730 Indians and Half-breeds, viz.: Crees, 3,500; Assiniboines, 4,060; Blackfeet, 2,100; Piegiens, 2,450; Blood Indians, 1,750; Sarcees, 350; Gros-Ventres, 2,100; Salteaux, 140; Half-breeds (a race whose fathers were Europeans, and mothers Indians), 280.

The following is a classification and distribution of the tribes occupying the country east of the Rocky mountains, and resorting upon occasion to the company's establishments:—

Mackenzie's River District.—The Copper Indians, inhabiting the country about this river; the Loucheux, or Quarrellers; the Hare Indians; the Dog-

rib Indians; the Strong-bow Indians, inhabiting Mackenzie's River district, and speaking different languages.

Athabasca and Isle a la Crosse Districts.—The Chipewyans, and a few of the Cree tribes inhabiting the country surrounding this lake, and between it and the Isle a la Crosse district.

Peace River District. The Beaver Indians, and a few Salteaux from the Roby Lake, inhabiting both sides of this river, and speaking a language different from that of the Chipewyans of Athabasca.

Upper part of the Saskatchewan District. The Blackfoot Proper; the Blood Indians; the Piegiens; the Fall Indians; the Sarcees. All these tribes are generally termed Blackfeet, although they speak different languages, and have different customs and manners.

Lower part of the Saskatchewan District.—The Stone Indians, or Assiniboines; the Crees; the Sautaux, or Ogilways. These three tribes are constantly at variance with the Blackfeet, and the whole eight depend on the chase for subsistence. They, i.e. the three tribes, extend their habitations also to the upper part of Red River and of Swan River.

York Factory, Oxford, Norway House, Canoe-land, and lower part of Swan River District. Mis-kee-Goose, or Swampy Indians. These also extend along the sea-coast to James's Bay. They evidently spring from the Crees, as their language is only a dialect of the Cree. There is said to be a mixture of the Sautaux in their origin.

Churchill District.—Esquimaux; Chipewyans, and a few Swamp Indians, inhabiting the country to the north of Churchill.

The Indians in James's Bay are generally classed with the Mis-kee-goose, and inhabit the countries about Albany, Moose, and East Main.

Character of the Indian Population.—It is difficult to describe the character of the various tribes referred to in the preceding classifications; they have each some recognised difference, and are most of them in a constant state of warfare with each other. The Sarcees are said to be the boldest. All have horses and fire-arms; and horse-stealing is a favourite occupation with them. The Crees and Blackfeet have deadly feuds, and each combat with the Assiniboines. The small tribes are drawn into the contests of the larger, and are rarely at peace. Ambuscades, surprises by day or night, and treacherous massacres of the old and young, of women and the sick, constitute the moving interests of their lives. No hardships or inducements will make them settle and cultivate their land; and until they do so, it is almost hopeless to expect any Christian results from the humane efforts of the Hudson's Bay Company and the missionaries. The most degrading superstitions prevail; cunning is employed where force cannot be used in plunder; lying is systematic; woman is treated as a slave; and the wild Indian is, in many respects, more savage than the animal around him.

Christian Conduct and Beneficent Policy of the Hudson's Bay Company.—A careful examination of all available information, confirms me in believing, that the Hudson's Bay Company have well fulfilled the objects for which their charter was granted in 1670. Without any aid from the crown—without any drain upon the national exchequer—opposed by American, and even English rivalry—subject to plunder and devastation by the fleets and forces of the French and Russian governments—struggling against an inclement climate, in a sterile soil—shut out from maritime communication with England, except for a few months in the year—and amidst hosts of wild, warlike, and treacherous savages, the Hudson's Bay Company have acquired and maintained for England, by a sagacious and prudent policy, by honourable, and, above all, by Christian conduct, exclusive dominion over that portion of the North American continent which lies between the Atlantic and Pacific Oceans, north of the 49th degree of latitude, extending over more than *three million square miles*—(3,060,000.)

But for the Hudson's Bay Company, England would probably have been shut out from the Pacific, for, on the 5th of April, 1814, a convention was signed between the United States and Russia, (to which England was no party,) making the 54th parallel the boundary of their respective dominions. The settlements of the Hudson's Bay Company on the Columbia River and in the Oregon region defeated this project.

The American geographer and librarian to the United States' government, Mr. Greenhow, who ably vindicates the rights and claims of his own country, who is by no means favourably disposed to any claims of England on the continent of America, and who, as an American, is little inclined to approve of the conduct of an association whose interests he naturally considers opposed to those of his own countrymen, thus candidly expresses his views in 1814, when referring to the disputed territory of the Oregon, Columbia River, Vancouver's Island, &c.:—

"The British Ministers could have no counsellors better qualified to advise, or whose interests were more completely identified with those of the government, than the Hudson's Bay Company, who, representing in all respects the interests of Great Britain in North-West America, has indeed become a powerful body. The field of its operation was more than doubled by its union with the north-west company, and by the licence to trade, in exclusion of all other

British subjects, in the countries west of the Rocky Mountains, where the fur-bearing animals are more abundant than in any other part of the world; while the extension of the jurisdiction of the Canada courts over the whole division of the continent, to which its charters apply, and the appointment of its own agents as magistrates in those regions, gave all that could have been desired for the enforcement of its regulations. The arrangement made with the Russian-American Company, through the intervention of the two governments, secured to the Hudson's Bay Company the most advantageous limits in the north-west; and the position assumed by Great Britain, in the discussions with the United States respecting Oregon, were calculated to increase the confidence of the body in the strength of its tenure of that country, and to encourage greater efforts on its part to assure that tenure.

"The licence granted to the Hudson's Bay Company in 1821, expired in 1842, but another had been previously conceded, also for twenty-one years, containing some new and important provisions. Thus, the company was bound, under heavy penalties, to enforce the due execution of all criminal processes by the officers and other persons, legally empowered in all its territories; and to make and submit to the government such rules and regulations for the management of the trade with the Indians as should be effectual to prevent the sale and distribution of spirituous liquors among them, and to promote their moral and religious improvement. It is, moreover, declared in the grant, that nothing therein contained should authorise the company to claim the right of trade in any part of America, to the prejudice or exclusion of the people of '*any foreign states*,' who may be entitled to trade there, in virtue of conventions between such states and Great Britain; and the government reserves to itself the right to establish within the territories included in the grant any colony or province, to annex any part of those territories to any existing colony or province, and to apply to such portion any form of civil government which might be deemed proper. Whether this last provision was introduced with some special and immediate object, or with a view to future contingencies, no means have as yet been afforded for determining. It is, however, certain that the British government insisted strongly on retaining the above-named privileges; and it is most probable, the Red River* and the Columbia countries were in view at that time as the remainder of the territory, included in the grant and not possessed by the company in virtue of the charter of 1669, is of little value in any way. In addition to the assistance and protection thus received from the British government, the constitution of the Hudson's Bay Company is such as to secure the utmost degree of knowledge and prudence in its councils, and of readiness and exactness in the execution of its orders. Its affairs are superintended by a governor, a deputy governor, and a committee of directors established at London, by whom all general orders and regulations are devised and issued, and all reports and accounts are examined and controlled. The proceedings of this body are enveloped in profound secrecy, and the communications made to the government in writing, which are likely to be published, are expressed in terms of studied caution, and afford only the details absolutely required.

* Mr. Greenhow is wrong so far as the Red River territory is concerned, as that region is not included in the exclusive licence of trade in 1838. [R. M. M.]

"The trade in America is especially directed by a resident governor, who occasionally visits and inspects all the principal posts;—under him, as officers, are chief factors, chief traders, and clerks, for the most part natives of North Britain, and an array of regular servants, employed as hunters, traders, voyageurs, &c., nearly all of them Canadians, or half-breeds. The number of all these persons is small, when compared with the duties they have to perform; but the manner in which they are admitted into the service, and the training to which they are subjected, are such as to render their efficiency and their devotion to the general interests as great as possible. The strictest discipline, regularity, and economy, are enforced in every part of the company's territories; and the magistrates appointed under the Act of Parliament for the preservation of tranquillity, are seldom called to exercise their functions, except in the settlement of trifling disputes.

"In the treatment of the aborigines of the countries under its control, the Hudson's Bay Company appears to have admirably reconciled policy with humanity. The prohibition to supply those people with ardent spirits, appears to be rigidly enforced. Schools for the instruction of the native children are established at all the principal trading posts, each of which also contains an hospital for sick Indians, and offers employment for those who are disposed to work, whilst hunting cannot be carried on. Missionaries of various sects are encouraged to endeavour to convert them to christianity, and to induce them to adopt the usages of civilized life, so far as may be consistent with the nature of the labours required for their support; and attempts are made, at great expense, to collect the Indians in villages, on tracts where the climate and soil are most favourable for agriculture. Particular care is extended to the education of the half-breed children, the offspring of the marriage or concubinage of the traders with the Indian women, who are retained and bred as far as possible among the white people, and are employed, whenever they are found capable, in the service of the company. As there are few or no white women in those territories, except in the Red River settlements, it may be readily seen that the half-breeds must in a short time form a large and important portion of the native population.

"The conduct of the Hudson's Bay Company in these respects is certainly worthy of commendation. It is, however, to be observed, that of the whole territory placed under the authority of that body, only a few small portions are capable of being rendered productive by agriculture. From the remainder nothing of value can be obtained, excepting furs, and those articles can be procured in greater quantities, and at less cost, by the labour of the Indians, than by any other means.

"The course observed by the Hudson's Bay Company towards American citizens in the territory west of the Rocky Mountains, has been equally unexceptionable and yet equally politic. All the missionaries and emigrants from the United States, and, indeed, all strangers from whatever countries they might come, were received at the establishments of the company on the Columbia with the utmost kindness and hospitality, and they were aided in the prosecution of their objects, so far and so long as those objects were not commercial. But no sooner did any one, unconnected with the company, attempt to hunt, or to trap, or to trade with the natives, than all the force of the body was immediately directed towards him. There

is no evidence, or well-founded suspicion, that the Hudson's Bay agents have ever resorted, directly or indirectly, to violence, in order to defeat the efforts of such rivals. And, indeed, those means would have been superfluous, whilst the company enjoys such great advantages in its organization, its wealth, and the minute knowledge of the country, and influence over the natives, possessed by its agents. Wherever an American trading post has been established, or an American party has been engaged in trade on the Columbia, there appeared a Hudson's Bay agent at the head of a number of hunters, or with a large stock of merchandise, or a large amount of specie in hand, which were offered for skins on terms much more favourable to the Indians than those possessed by the citizens of the United States; and the latter, in consequence, finding their labours vain, were soon obliged to retire from the field. Even without employing such extraordinary and expensive means, the British traders, receiving their goods in the Columbia by sea from London, free from duty, can always undersell the Americans, who must transport their merchandise 2,000 miles over and from the frontiers of the United States, where the articles best adapted for the trade have previously been subjected to an import duty. In pursuance of the same system, the company endeavours, and generally with success, to prevent the vessels of the United States from obtaining cargoes on the north-west coasts of America, though the mariners of all nations, when thrown upon the coasts by shipwreck, or by other misfortunes, have uniformly received shelter and protection at its posts and factories."—*History of Oregon and California*, published by Murray, London. 1844.

The grounds on which the exclusive licence of trade was granted in 1838, are stated by the Board of Trade (letter, 2nd June, 1837,) to be on account of the liberal and enlightened policy which has generally distinguished the Hudson's Bay Company; and the "peculiar nature of the fur trade seems to justify, and even to recommend, the adoption of the principle of conferring exclusive privileges upon a great body engaged in it, however objectionable such a principle appears with reference to commercial affairs generally."

The Bishop of Montreal, on his visit to the Red River settlement in 1844, says, that the arrangements for his doing so were all made for him "in the most excellent manner, and with the most careful attention, by direction of Sir G. Simpson, the governor of the Hudson's Bay territories." The bishop speaks of "the kindness and attention which he everywhere experienced at the hands of the Hudson's Bay Company's servants." At page 166 of his journal, he says, "It is the rule of the company's posts that the factor or trader in charge, where there is no clergyman, should read the church service on Sundays to the persons who can be gathered to hear it. The company have forwarded the erection of churches at Red River." And at page 164, his lordship remarks—"I

I may judge from the kindness shown personally to myself, the facilities given to my operations, and the respect paid to my office by *all* the gentlemen representing the company's interest with whom I had to do, that body must be presumed well affected to the cause; and that its several proceedings are conducted on a liberal scale, I have some occasion to notice." The late Mr. Leith, who was a resident factor of the company, bequeathed £10,000 toward the propagation of the gospel in the scene of his former pursuits.

A branch of the Church Missionary Society was established at Red River settlement in 1822, under the Rev. Mr. West, who was appointed chaplain to the company. In 1824, the Rev. Mr. Jones was appointed chaplain to the company, and the Bishop of Montreal says, "he met with much countenance and support from the authorities of the Hudson's Bay Company," who, in 1831, "gave a munificent grant towards the construction of another Protestant church." The building was opened for divine service on the 26th of November, 1831. It is capable of accommodating, comfortably, 700 people, and 1,000 might find room without being overcrowded. Five day-schools, containing about 400 children, had been established; besides 2 seminaries, affording board, lodging, and education to 25 young ladies, and 30 young gentlemen, children of the gentlemen engaged in the service of the Hudson's Bay Company. At the different Sunday-schools, also, nearly 300 received religious instruction. The orderly demeanour, moral conduct, and religious habits of all classes, were satisfactory and cheering.

Commodore Wilkes, speaking of Fort Vancouver, on the Columbia river, says—

"There are extensive kitchens and apartments for the half-breed and Indian children that the company have taken to bring up and educate. Of these, there are now 23 boys and 15 girls, who claim the particular attention of Dr. McLaughlin and Mrs. Douglas. A teacher is employed for the boys, who superintends them not only in school, but in the field and garden. During my stay, an examination took place, and although the pupils did not prove very expert at their reading and writing, yet we had sufficient evidence that they had made some improvement, and were in a fair way to acquire the rudiments. Some allowance was to be made for the boys, who had been constantly in the field under their teacher for a few months past. Dr. McLaughlin estimated the labour of four of these small boys as equal to that of a man. It was an interesting sight, to see these poor little cast-away fellows, of all shades of colour, from the pure Indian to that of the white, thus snatched away from the vices and idleness of the savage. They all speak both English and French; they are also instructed in religious exercises, in which I thought

they appeared more proficient than in their other studies. These they are instructed in on Sunday, on which day they attend divine worship twice. They were a ruddy set of boys, and when at work had a busy appearance: they had planted and raised 600 bushels of potatoes, and, from what Dr. McLaughlin said to me, fully maintain themselves. The girls are equally well cared for, and taught by a female, with whom they live and work."

The commodore bears "testimony that the officers of the company are exerting themselves to check vice, and encourage morality and religion, in a very marked manner." He adds, "I saw no instance in which vice was tolerated in any degree. I have, indeed, reason to believe, from the discipline and the example of the superiors, that the whole establishment is a pattern of good order and correct deportment. This remark not only extends to this establishment, but as far as our opportunities went, (and all but two of the posts were visited,) the same good order prevails throughout the country. Wherever the operations of the company extend, they have opened the way to future emigration, provided the means necessary for the success of emigrants, and rendered its peaceful occupation an easy and cheap task."

Lieutenant-colonel Crofton, who recently commanded a detachment of Her Majesty's troops in the Hudson's Bay territories, and was appointed a commissioner of inquiry into the truth of allegations made against the company, thus reports in a letter to the Secretary of State, on 12th February, 1848: "I unhesitatingly assert, that the government of the Hudson's Bay Company is mild and protective, and admirably adapted, in my opinion, for the state of society existing in Prince Rupert's Land, where Indians, half-breeds, and Europeans are happily governed, and live protected by laws which I know were mercifully and impartially administered by Mr. Thom, the recorder, and by the magistrates of the land."

The present governor-general of Canada, the Earl of Elgin, one of the most upright and able servants of the crown, and whose judgment is of the highest order, thus expresses himself in a reply to the inquiries of the Secretary of State for the colonies:—"I am bound to state that the result of the inquiries I have made is highly favourable to the company, and has left on my mind the impression, that the authority which they exercise over the vast and inhospitable region subject to their jurisdiction is, on the whole, very advantageous to the Indians."

BOOK VII.—VANCOUVER'S ISLAND.

POSITION, EXTENT, ASPECT, GOVERNMENT, &c.

THIS fine island is situated on the W. coast of America, between $48^{\circ} 17'$ and $50^{\circ} 55'$ N. lat., and $123^{\circ} 10'$ and $128^{\circ} 30'$ W. long., and is in length about 290 miles, with an average breadth of 55 miles. We know little of the interior of the country: it is said to be intersected by high mountain ranges, with extensive prairies, a rich soil, abundantly timbered with oak, pine, &c., and well watered, adapted for the cultivation of wheat and other grain, with a fine climate, and many excellent harbours. The shores of the island are generally high, steep, rocky, and covered with wood. Fort Victoria, the chief establishment, in $48^{\circ} 26'$ N. lat., and $123^{\circ} 9'$ W. long., is on the south shore, near the head of a narrow inlet, termed the Port of Camosack, or Cammusan, around which there is a range of plains to an extent of nearly six square miles, containing valuable tillage and pasture land, and water power for flour or saw mills. The fort is a square enclosure of 100 yards, surrounded by cedar pickets, 20 feet in height, having octagonal bastions, containing each six 6-pounder guns at the N.E. and S.W. angles. The buildings are made of square timber, forming three sides of an oblong. About three miles distant, and nearly connected by a small inlet, is the harbour of Esquimaux, which is described to be capable of receiving ships of the line, and of which a very favourable opinion has been expressed by captain George Thomas Gordon, R.N., who was directed by admiral Seymour to examine the coal mines on Vancouver's Island. The coal is found in seams 10 to 18 inches thick, some below high-water mark, others 60 feet above the sea; and Captain Gordon, by the aid of the natives, obtained 60 tons of coal, equal, if taken several feet from the surface, to the best Scotch coal, at an average cost of four shillings per ton. The coal yields coke in the proportion of 52 per cent. The extent of the coal-field inland is supposed to be considerable; and it stretches over all

the N.E. coast. There is excellent anchorage in the neighbourhood, which may be approached by way of Cape Scott, thus avoiding the difficult and dangerous navigation of Sir George Seymour's Narrows and Johnstone's Straits.

The natives, or Indians, on the island, amount probably to 10,000 in number. Captain Gordon says, "They are a fine race of men, and appear industrious and friendly, but are much addicted to thieving." When they ascertained that he wanted coal, they entered into his views, became very active, and surprised him by procuring, with the rude implements of hatchets and wedges, a large quantity of coal.

Vancouver's Island has been granted, by letters patent, dated 13th January, 1849, in free and common socage, to the Hudson's Bay Company, under certain conditions, one of which provides, that unless a settlement of resident colonists, emigrants from the United Kingdom, be established within five years, the grant shall be revoked. The ports and harbours are free to all nations, either trading or seeking shelter therein: the fisheries around the island are open to every freeholder: all minerals found belong to the company, who have the right of digging for the same, compensation being made to the owner of the soil for any injury done to the surface; but the owners of land have the privilege of working, for their own benefit, any coal mine that may be on his land, on payment of a royalty of 2s. 6d. per ton. The Hudson's Bay Company sell the land, in free and common socage, in lots of not less than 20 acres, at £1 per acre. Purchasers of more than 20 acres are bound to take out with them, to Vancouver's Island, 5 single men, or 3 married couples for every 100 acres. The island is to be divided, where practicable, into districts of from 5 to 10 square miles. A portion, equal to one eighth of the quantity of land sold, is to be set apart for the main-

tenance of ministers of religion. Thus, in a district of 10 square miles, containing 6,400 acres, supposing 5,120 acres sold, the minister would be entitled to 640 acres, the remaining 640 acres would be available for roads, site for church and churchyard, schools, or other public purposes.

With the view of enabling the ministers to bring their lands into cultivation, a free passage to be granted to such a number of persons as a settler having an equal quantity of land would be required to take out, the cost to be paid out of the fund held in trust for the benefit of the colony. The several apportionments for purposes of religion to be conveyed to, and to be held by, the governor and council, in trust for the parties appointed to perform the clerical duties of the respective districts.

The most material provisions for the government of the colony are as follows:—The governor is appointed by the crown, with a council of seven members, likewise so appointed. He is authorised to call assemblies, to be elected by the inhabitants holding 20 acres of freehold land. For this purpose, it is left to the discretion of the governor to fix the number of representatives, and to divide the island into electoral districts if he shall think such division necessary. The governor will have the usual powers of proroguing or dissolving such assembly. Laws will be passed by the governor, council, and assembly. The legislature, thus constituted, will have full power to impose taxes and to regulate the affairs of the island, and to modify its institutions, subject to the usual control of the crown.

The position, resources, and climate of Vancouver's Island eminently adapt it for being the Britain of the Northern Pacific; there is no port between the straits of Juan de Fuca and San Francisco: it is within a week's sail of California; within double that distance from the Sandwich Islands, with which a thriving trade has already been established; five days' voyage from Sitka or New Archangel, the head-quarters of the Russian Fur Company's settlements, where large supplies of provision are required; and it is within three weeks' steaming distance of Japan, with whose rich islands it is to be hoped the British government will soon be enabled to re-establish the friendly commercial intercourse that existed at the beginning of the seventeenth century. This commanding position justifies the expectation that Vancouver's Island will become not only a

valuable agricultural settlement, but also a rich commercial *entrepôt* for British trade and industry.

The formation of a canal and of a railroad across the Isthmus of Panama will materially facilitate the colonization of Vancouver's Island. Whether it be possible to establish regular and rapid communication, *via* Canada, with the coast of the Pacific, remains yet to be ascertained; but great credit is due to Major Robert Carmichael Smyth, for the talent, energy, and patriotism with which he has laboured to promote a "British colonial railway communication between the Atlantic and the Pacific." By whatever means Vancouver's Island be brought within half its present distance from England, great good cannot fail to accrue to the colony and to the parent state.

Steam communication between England and British America.—Mr. Samuel Cunard, of Halifax, Nova Scotia, having entered into a contract with the British government for the conveyance of the mails between Great Britain and North America, the British and North American Royal Mail Steam-packet Company was originated, and an amended contract entered into with the government by Mr. Cunard, Mr. George Burns, of Glasgow, and Mr. David Mac Iver, of Liverpool, in 1839, to carry the mails twice a month, during eight months in summer, and once a month during four months in winter, between Liverpool and Halifax, in Nova Scotia, and Boston in the United States and Quebec, by a branch steamer on the St. Lawrence. Previously to the commencement of the service under this contract, in July, 1810, there were other steamers, viz.—the *Sirius*, *Great Western*, *British Queen*, *President*, *Royal William*, and *Liverpool*, some of which had crossed the Atlantic with more or less success, but only in the summer; and the capability of steamers to traverse the North Atlantic with regularity in winter, as well as summer, remained to be proved. Indeed, from the experience acquired by the voyages of the before-named vessels, it was generally held to be impracticable for steamers to navigate that ocean during the winter months, not in point of regularity alone, but of safety. The result of the winter passages of this company's vessels was highly satisfactory; and the government, with a view to the public benefit, entered into an extension of the contract, commencing 1st January, 1848,

with Messrs. Samuel Cunard, George Burns, and Charles Mac Iver (vice Mr. David Mac Iver, deceased,) for an increased service. A steam ship of the first class now sails from Liverpool to Boston and New York alternately every second Saturday during the months of December, January, February, and March, and to the same ports alternately on every Saturday during the other eight months of the year. The experience of the past nine years has amply proved, that with such steamers as are employed by this company, and under proper management, the North Atlantic Ocean may be navigated at all seasons of the year with speed, regularity, and safety. Previous to the commencement of the service by this company, the mails were carried between Falmouth and Halifax by gun brigs, which cost the country a great deal of money, as well as loss of lives annually. *The contract price paid by the government for the present line of steamers has been met by the postages, and an immensely better mode of conveyance has been obtained, at a great saving of expense to the country, and without loss of life to a single passenger.* The contractors were only originally bound to furnish vessels of 300 horse power, but they supplied vessels of 1,200 tons burthen, and upwards of 400 horse power. On the extension of their contract they were bound to supply vessels of 400 horse power, but they are now employing vessels of 700 horse power, and are building still larger ones to be propelled by engines of 800 horse power. The burthen of the new vessels will be about 2,000 tons.

The contract payment for the first service described above, was £90,000 until the Quebec branch was dropt, when it was reduced to £85,000. The present payment for the extended service is £115,000 per annum.

It may here not be out of place to mention, that in consequence of the repeal of the British Navigation laws, it has been announced by the secretary of the United States Treasury, that from and after the 1st of January, 1850, British ships and their cargoes will be admitted into the ports of the United States, on the same terms as to duties, imports, and charges, as vessels of the United States and their cargoes. In consequence of this change, the British and North American Royal Mail Steam Packet Company have originated a branch line of Steamers, to convey French goods from Havre, to their steamers at Liverpool, to be

taken on from thence to Boston and New York.

Great credit and liberal national support are due to the enterprising and successful establishers of this important line of communication between the old and the new world; they have, in fact, bridged over the wide Atlantic; made the trackless and tempestuous deep a safe highway the whole year through; and most materially contributed to the promotion of friendly intercourse, of social improvement, and of commercial and financial relations between Europe and America. To the British Colonies on, and adjacent to, the western continent, the advantages of weekly intercourse with the parent and governing state are manifold, and of incalculable value; but for the "Cunard" Line of steamers, (which arrive at their respective stations with more regularity than the London and York mail coach did twenty years ago) the maintenance of the North American provinces as an integral part of the British Empire, would have been a matter of great difficulty; and although the United States government is now endeavouring to establish a distinct line of mail steamers from New York to Bremen, I doubt not that the superiority will continue, as heretofore, with the British line, and that it will deserve the cordial and effective support of Her Majesty's government.

Connected with an efficient transatlantic communication is the establishment of a railroad on the seaboard of British America, which shall connect the whole of the North American provinces, and form a continuous steam transit from the sea-coast to Lake Huron; one line has been projected from Halifax, *via* New Brunswick to Quebec, to which I have referred in the details of Nova Scotia; another line is now actually in progress, termed the *St. Andrew's and Quebec Railroad*, and is an undertaking carried on under the auspices of the Earl Fitzwilliam, Lord Ashburton, and other gentlemen in England, combined with the principal merchants and inhabitants resident at St. Andrew's and other points through which the line proceeds. The line will afford, at all seasons of the year, a direct and uninterrupted communication between the Canadas and Atlantic, and will be the only one the colonists will possess through British territory.

Its political importance can therefore be scarcely overrated, when viewed either as a high road to the mother country, or as con-

meeting the different provinces in a common bond of communication; and, in a mercantile point of view, it cannot be considered otherwise than as one of the best investments of the day, having been stamped with the patronage and approval of the late Lord Ashburton, even before the company received their recent magnificent grant of land; Lord Ashburton's acquaintance with the country, from his settlement of the boundary dispute, renders his testimony of great value. The grant consists of all the unallotted lands comprised within a belt of five miles on each side of the railway, and, by a certificate from the surveyor-general, contains upwards of 200,000 acres of some of the best land in the province, which, in consequence, doubles, or even quadruples the profitable character of the undertaking.

The company is incorporated by several acts of the local legislature, confirmed by the queen in council, and in addition to the above grant of land, has obtained privileges and advantages which cannot be claimed by any similar body, viz., 6 per cent. on the English capital guaranteed by the legislature for 25 years, which is chargeable on the revenues of the province. The Company have the power to make branch lines or extensions to, or in any part of the colony without applying for fresh legislative acts, and with the same facilities as to land and the free use of crown materials as on the trunk line.

It is officially stated to me that the capital of the Association is divided into 8,000 shares of £20 each: half of which, termed class "A" are to be allotted in England, and the remainder, called class "B" reserved for allocation in New Brunswick; the majority of these shares are already appropriated, and the works are proceeding with vigour, and it is confidently hoped that the first section to Woodstock, (80 miles) will be open in two years. Offices for the payment of dividends and the transaction of such business as must be conducted in England, are established at No. 10, Parliament Street, Westminster; and the interests of the English stockholders are guarded by a board of directors, resident in this country, whose sanction is necessary to all measures proposed by the local directors in New Brunswick. The land belonging to the company, which has hitherto been of comparatively trifling value, will, when the railway passes through it, most probably

be eagerly sought after, and at once command a considerably enhanced price, which will far more than bring back their whole capital to the shareholders; as, for instance, there are 8,000 shares of £20 each, and if the 200,000 acres are divided amongst those 8,000 shares, it will give 25 acres per share, which, taken at the low figure of £1 per acre, gives £25 per share, or £5 per share more than the actual capital subscribed; and although the land will be disposed of, and thus return their capital to the shareholders, yet still the line will remain their property, and, from the provincial guarantee of interest, retain a comparative high value in the market.

This is a strong inducement offered to the English capitalist, the use of whose money will only in the first instance be required, but to the homeless wanderer from the British shores, its benefits will prove incomparably greater, as employment will be afforded him on the railway until he has had time to clear his land and become acquainted with the requirements of his novel mode of life; and by this he will be spared that fearful season of suspense which now intervenes between the first clearing of the land and the period when it yields its return.

Some of the shareholders have agreed to give a tenth of their land for church, school, and hospital purposes. Thus will nuclei be formed, around which a population will collect in a healthy and legitimate manner, and blessings, both present and prospective, be secured to all future emigrants.

Table of the portions of time in which European intelligence, telegraph and mails, passengers and freight, by sea and railroad, may reach Montreal. By Admiral W. F. W. Owen.

For Montreal.	Intelligence by telegraph will be delayed by intervening time at sea	Mails, passengers, and freight, by sea and railroad.
	Hours.	Hours.
Debarling at—		Sea. Rail.
Capeau or Whitehaven	0	0 + 25 = 25
Halifax, Nova Scotia . . .	12	12 + 24 = 36
Portland, Maine	48	48 + 0 = 57
Boston, Massachusetts . . .	52	56 + 11 = 63
New York	70	70 + 13 = 83

If space had permitted, a chapter would have been given on emigration to the British North American colonies; on the advantages they possess as integral portions of a vast empire; and on the general state of those provinces as fields for the reception of the accumulating labouring population of the United Kingdom. This section must, however, be reserved for the close of the work.

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